Musiclab

RealGuitar 4 User's Manual

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About the program

If you are serious about creating truly realistic sounding solo and accompaniment guitar stuff for your songs, our product called RealGuitar is just what you need. RealGuitar is a sample-based virtual instrument with an innovative approach to guitar sound modeling and guitar part performing on keyboard.

The true power of RealGuitar lies in brand new technologies incorporated in this innovative guitar performance tool:

- New multi-channel layering technology, incorporating a custom library of specially recorded samples taken from every fret of all 6 strings of a real guitar.
- The unique Floating Fret Position technology, which imitates change of fret position of a guitarist's hand on the neck. This gives you the possibility of playing on up to 104 guitar frets using just 43 keys of a standard keyboard!
- Our original Guitar Touch technology letting you easily imitate basic guitar techniques (strumming, plucking, sliding, bending, muting, etc..), using standard MIDI keyboard and MIDI controllers, such as Pitch Bender, Modulation Wheel, Sustain Pedal, Aftertouch.
- Guitar Rhythm Pattern technology providing powerful Pattern Manager completed with huge MusicLab Guitar Pattern Library for easily creating guitar accompaniment tracks. All you have to do is to find the appropriate rhythm pattern(s) in the Pattern Manager tree view, copy it to the needed number of

measures, start your sequencer and use MIDI keyboard to play chord changes, or alternatively add chords to a MIDI track via sequencer's editor.

- Song Mode turning RealGuitar 4 into a powerful and easy-to-use songwriting tool allowing you in no time create perfect guitar backing tracks for your songs. Simply insert chord symbols and rhythm patterns into the built-in Song Track - and your guitar part is ready!
- Advanced Humanize section allowing to easily add realism to the performance, both live and step-recorded in a MIDI track, or automatic.
- The unique Struminator technology letting you use alternative MIDI controller (standard Guitar Hero game controller by Activision Inc.) for creating authentic guitar accompaniment parts with ease and fun.

These technologies allow to closely emulate live guitar sound and techniques, letting you perform guitar parts with a whole new level of realistic expression.

Installing RealGuitar

Installing RealGuitar PC version

Double-click RealGuitar Installer file and follow the on-screen instructions.

At the end of installation process RealGuitar Bank Manager will open and extract sound bank optimized for particular sample rate which allows using Quick Load mode realized in RealGuitar.

In RealGuitar Bank Manager dialog check the appropriate sample rate box you normally use in your audio work. Click Apply button to start sound bank extracting. Close Bank Manager when sound bank installation is completed. Note, that higher sample rate value will install larger target sound bank.

Important! If Bank Manager window doesn't open automatically during installation process you have to run it manually from *Start menu->Program Files->MusicLab->RealGuitar*, or alternatively go to RealGuitar installation folder (by default: *C:\Program Files\MusicLab\RealGuitar*) and double click StgMan.exe file.

Note that if you want to change sample rate for your audio work you have to run RealGuitar Bank Manager and create sound bank optimized for the new sample rate value.

In case your VST plugins folder is not registered correctly RealGuitar installer will not automatically install RealGuitar.dll in the correct folder. So to let your VST host 'find' RealGuitar you have to manually copy RealGuitar.dll from RealGuitar installation folder to your VSTplugins directory.

If your Windows is 64bit, please note of installation folders:

32bit: *C:\Program Files (X86)\MusicLab\RealGuitar*

64bit: *C:\Program Files\MusicLab\RealGuitar*

Installing RealGuitar Mac version

Double-click RealGuitar Installer icon and follow the on-screen instructions.

At the end of installation process RealGuitar Bank Manager will open and extract sound bank optimized for particular sample rate which allows using Quick Load mode realized in RealGuitar.

In RealGuitar Bank Manager dialog check the appropriate sample rate box you normally use in your audio work. Click Apply button to start sound bank extracting. Close Bank Manager when sound bank installation is completed. Note, that higher sample rate value will install larger target sound bank.

Important! If Bank Manager window doesn't open automatically during installation process you have to run it manually - open RealGuitar installation folder and double click "StgMan" icon.

Note, that if you want to change sample rate for your audio work you have to run RealGuitar Bank Manager and create sound bank optimized for the new sample rate value.

Launching RealGuitar

Launching RealGuitar as a VST/AU instrument:

1. Open your DAW (host application).
2. Create Software Instrument track.
3. Add RealGuitar to the track.
4. Open the RealGuitar window by double-clicking the RealGuitar button/icon.

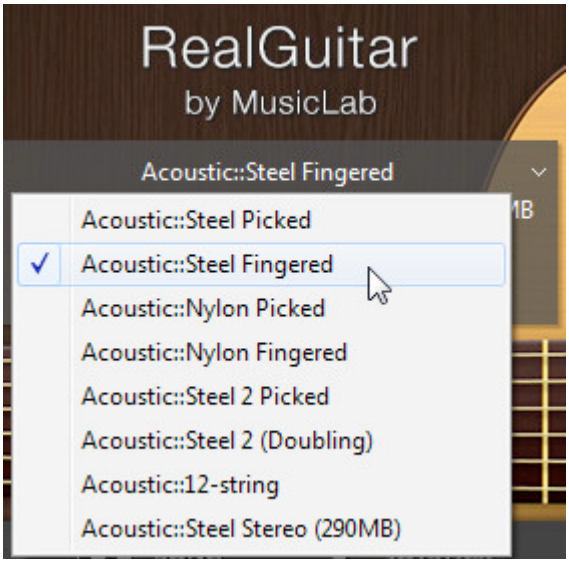
Launching RealGuitar as a standalone version:

In Start Menu go to *Programs*/*MusicLab*/*RealGuitar* folder and click on the RealGuitar icon (PC).

Run *HD*/*Applications*/*RealGuitar* (Mac).

Loading Guitar

Click the black screen combo box in the upper part of RealGuitar window to select the guitar patch from the list of available ones installed to RealGuitar Sound Bank.



RealGuitar includes 555 MB sample set featuring 8 Acoustic guitar patches:

1. Steel Picked
2. Steel Fingered
3. Nylon Picked,
4. Nylon Fingered
5. Steel 2 Picked
6. Steel 2 (Doubling)
7. 12-string
8. Steel Stereo (290MB)

Virtual Fretboard

In RealGuitar we have realized the **Floating Fret Position** principle, which imitates change of fret position of a guitarist's hand on the neck. This gives a unique possibility of playing on up to 104 guitar frets using just 43 keys of a standard keyboard! This, along with the fact that we have sampled 19 frets of the first string and 16 frets of the others (2-6 strings) for all of our guitar patches, allows you to emulate a guitar performance with maximum sonic accuracy.

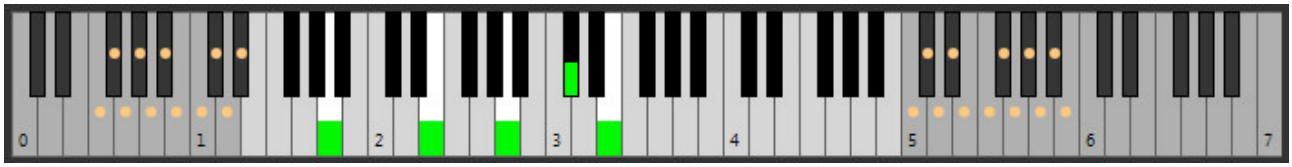
In the center of the RealGuitar window is the virtual **Fretboard**, one of the important elements of the plug-in, which allows you to visualize and control the Floating Fret Position while playing the guitar part.

The Fretboard has a number of functions:

1. **Preview** - allows audio previewing the loaded guitar patch by simply clicking on strings.
2. **Display notes** - shows the performed notes (with names) in accordance with visual representation on the fretboard and real sound (you see the notes displayed on string and fret of exactly the same sound samples currently playing).
3. **Fret Position Auto** control (the **Auto** button is pressed) - realizes automatic fret position change in Solo and Harmony modes, which moves the ‘Capo’ strip along the Fretboard depending on the sequence of performed notes.
4. **Fret Position Manual** control (the **Auto** button is released) - allows manually changing fret position by right clicking on any fret. A ‘Capo’ strip will appear on the fretboard, which will prevent playing samples from any fret lower on the neck than the ‘Capo’ position (except for the 6th string).

Virtual Keyboard

In the lower part of RealGuitar window you see a virtual keyboard that visualizes RealGuitar keyboard layout (Main and Repeat zones), indicates activated Key Switches in Solo mode, and shows all MIDI notes incoming to RealGuitar or played on virtual fretboard with a mouse:



Additionally, virtual keyboard duplicates the external MIDI keyboard input, so everything you can play by MIDI can be produced on virtual keyboard with a mouse. Shift-clicking will hold down the pressed key allowing to preview chords/Key Switch FXs.

RealGuitar Global Modes

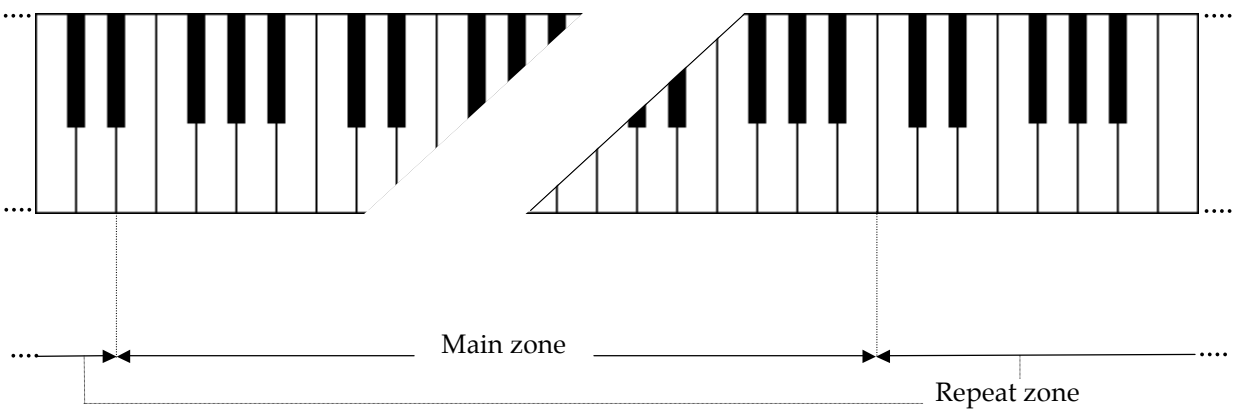
RealGuitar 3 provides 6 Global Modes implementing different working methods:

1. **MIDI Keyboard** - MIDI keyboard/MIDI track input
2. **Pattern** - automatic accompaniment using rhythm patterns from MusicLab Guitar Pattern Library
3. **Song** - songwriting tool featuring the built-in Song track where you can insert chords and patterns to construct the complete guitar accompaniment part
4. **Joystick** - Guitar Hero game controller input (Struminator technology)
5. **MIDI Guitar** - normal guitar input via guitar MIDI interface (6 strings to 6 MIDI channels)
6. **Direct** - works as plain sampler with multi-channel MIDI access to all internal sounds/noises individually with all intelligent features turned off.

MIDI Keyboard Global Mode

User Keyboard Layout

When connected to RealGuitar MIDI input the external keyboard is divided into 3 zones: **Main zone** (E1 - B4), left (C0 - D#1) and right (C5 – C7) **Repeat zones**.



In Solo mode **Main zone** extends to C1-B4.

Main zone serves for playing melodic parts (Solo and Harmony modes) and entering chords (Chords, Bass & Chord, Bass & Pick modes; Joystick SmartStrums, SmartStrings modes).

Any key of the Repeat zone repeats notes and chords played in the Main zone.

This way of keyboard mapping allows you to play guitar parts with 2 hands - you play various notes or chords in the Main zone with one hand and repeat them by pressing the pre-mapped keys in Repeat zone with the other hand without changing its position. This is very important for carefully preserving rhythm pattern accuracy and groove feel.

Using such a performance technique you can easily imitate the most characteristic details of guitar performance, such as tremolo, strumming, bass and strum, picking on your keyboard making them sound naturally as if they were played on a real guitar.

Repeat Key zone functions:

- In Solo, Harmony, Chords, and Bass & Chord modes you can repeat notes and chords played in the Main zone (any white key repeats the full sound, while black key repeats the muted sound). Also with the keys of Repeat zone you can alternate up/down/muted strokes to produce strumming and tremolo techniques (C, E, G – trigger up stroke; D, F, A - down stroke; C#, F#, A# - muted up stroke; D#, G# - muted down stroke) with both single notes and intervals/chords.
- In Bass & Chord mode you can trigger Bass I (Root) and Bass II (alternative bass) notes as well as upper string strums
- In Bass & Pick mode Repeat keys trigger individual voices (strings) of a chord taken in the Main zone.

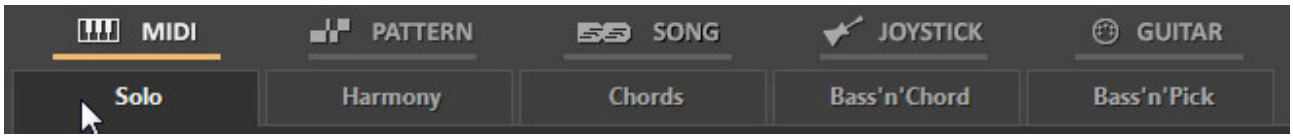
- In Solo mode Repeat keys, when activated in Key Switch panel, can also be used as Key Switches to switch on various FXs.

Performance Modes

RealGuitar MIDI Keyboard Global Mode includes 5 separate guitar performance modes, each of which is a separate performance tool meant for imitating special guitar performance style:

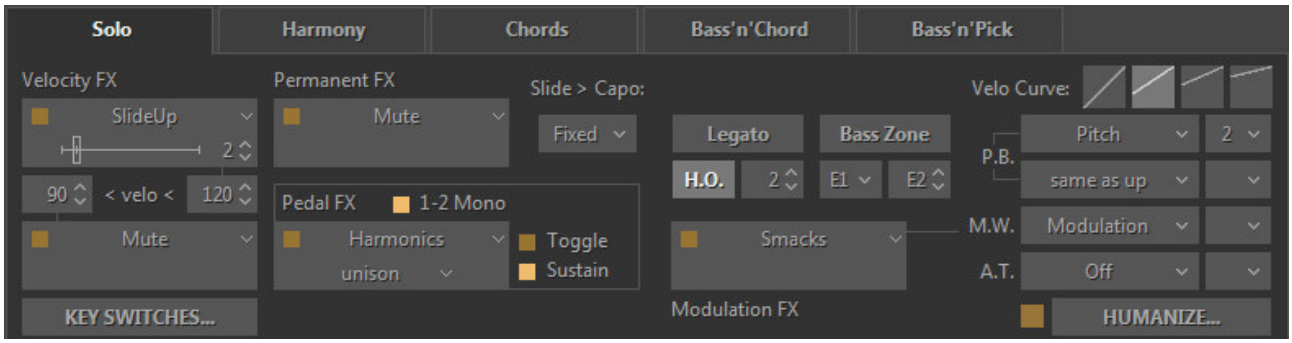
1. **Solo** - polyphonic mode for performing melodic parts.
2. **Harmony** - monophonic mode for performing parallel interval melodic parts.
3. **Chords** - chord mode for performing accompaniment strumming parts.
4. **Bass & Chord** - chord mode for performing bass and strum parts.
5. **Bass & Pick** - chord mode for performing picking/plucking parts.

The performance modes are selected by clicking on a respective tab:



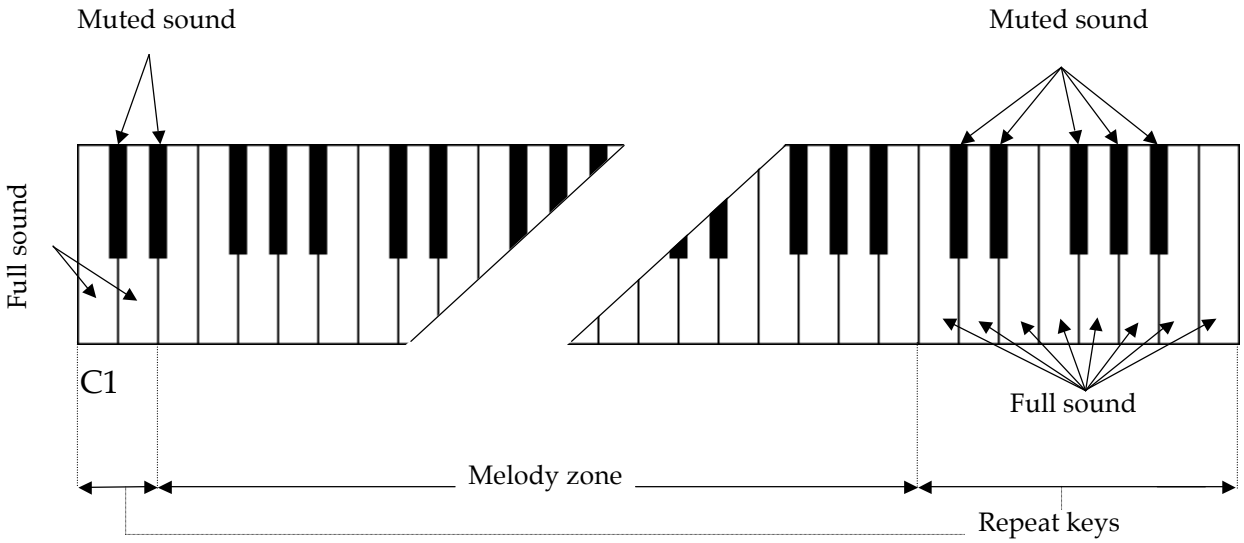
Solo Mode

Click Solo tab to switch on the Solo performance mode.



Solo mode window

In this mode the Main zone (E1 – B4) of the keyboard works as a normal polyphonic keyboard, while both Repeat Key zones (left (C0 - D#1) and right (C5 – C7)) allow you to repeat notes taken on the Main zone (white keys repeat full sound; black keys repeat muted sound of the same notes).

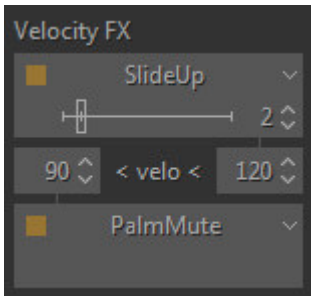


Controls

RealGuitar Solo mode provides you with multiple permanent and switchable controls allowing you to easily add various specific guitar articulations and effects to your performance.

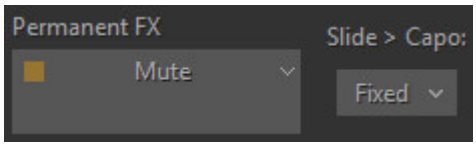
Velocity Switch Effects

On the left lower part of Solo panel you see **Velocity Switch FX** section including two FX boxes:



Using the Velocity Switch FX controls, two FXs can be dynamically engaged depending on the velocity of the MIDI notes played. For low velocity notes, set the numeric box on the left side to the threshold at which notes played at a lower velocity will trigger the FX selected in the lower FX selector. For high velocity notes, set the numeric box on the right side to the threshold at which notes played at a higher velocity will trigger the FX selected in the upper FX selector. As notes are played below or above the two thresholds, the two FX selector boxes will change to a light grey color to indicate they are being engaged. As with all FX selectors, each of the two Velocity Switch FX selector boxes have a FX Enable LED button so you can enable one, both or neither.

Permanent Effects



Permanent FX Box - allows selection of Effect in the pull-down menu and activate it by clicking on **FX Enable** LED button in the upper left corner.

Slide > Capo - controls the movement of the capo along the fretboard while performing either a Slide or Hammer-On effect. You can select any of 3 modes in a Slide>Capo combo box:

- **Fixed** - Capo is not affected. All notes will be played to the right of Capo position moving from string to string (except for the notes on the 6th string which the capo does not affect).
- **Ignore** - Capo is not affected. Slides ignore Capo position; notes will be performed along the string moving to another string only in case of reaching first or last fret.
- **Move** - Capo moves with Slide or H.O. (Hammer-on) notes along the fretboard.

Legato - enables producing notes played legato within semi-tone or whole-tone from each other without triggering attacks and being in mono mode (next will mute previous). The effect is as if the notes were played on the same guitar string when only the first note is picked and the following notes are played by the left hand alone.

H.O. - enables Hammer-On Effect with automatic Pull-Off on key release, affected note range is specified (in semi-tones) in numeric box.

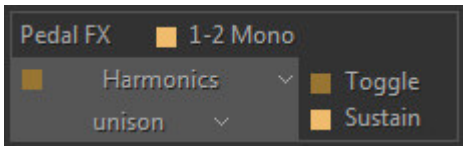
Bass Zone - splits the Main Zone of keyboard into two parts to allow individual performance techniques for each part. The Bass Zone button is toggled on and off. There are two additional combo boxes to set the lower note (E1, D1 or C1) and the upper note (ranging from E1 to E4) of the zone. Bass zone notes have a stronger velocity curve and are NOT affected by:

- **Mute keys** - this allows performing mutes and repetitions on the notes played outside Bass zone without cutting bass notes.
- **Velocity Switch FX** - this allows applying velocity switches only to notes played outside Bass zone while playing bass notes without the velocity switch.

Left combo box works independently of Bass zone button and allows **Drop D** and **Drop C** tuning in Solo mode by selecting the D1 or C1 as the lower note for the 6th string.

Pedal Switch Effects

You can trigger various RealGuitar Effects selected in **Pedal Switch FX** box by pressing normal Sustain Pedal controller.



Pedal Switch FX box has five different controls:

- **1-2 Mono** LED (On/Off)
- **FX Enable** LED (On/Off)
- **FX Selection** pull-down menu
- **Toggle** LED (On/Off)
- **Sustain** LED (On/Off)

1-2 Mono:

On - sustains all notes except for the notes played at a semi-tone or whole-tone interval (step-wise melodic run): the next note 1-2 steps apart mutes the previous one as if played on the same guitar string, while the thirds and larger intervals are being sustained.

Off - pedal sustains all notes played non-legato, and legato (in the case Hammer-On and Legato FXs are off).

FX Enable LED indicates if the Pedal FX is enabled or not. When LED is On, the FX is enabled when the Sustain Pedal is pressed.

FX Selection pull-down menu selects which FX is controlled by the Sustain Pedal.

Toggle:

On - indicates that the FX is toggled on and off each time the Sustain Pedal is pressed.

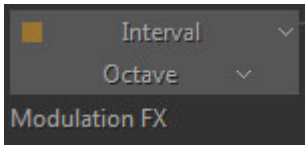
Off - indicates that the FX is only enabled when the Sustain Pedal is kept pressed. When the Sustain Pedal is not pressed, the FX is not enabled.

Sustain:

On - indicates that the Sustain Pedal both turns on the FX as well as sustains notes.

Off - indicates that the Sustain Pedal controls only the FX, and no notes are sustained.

Modulation Switch Effects



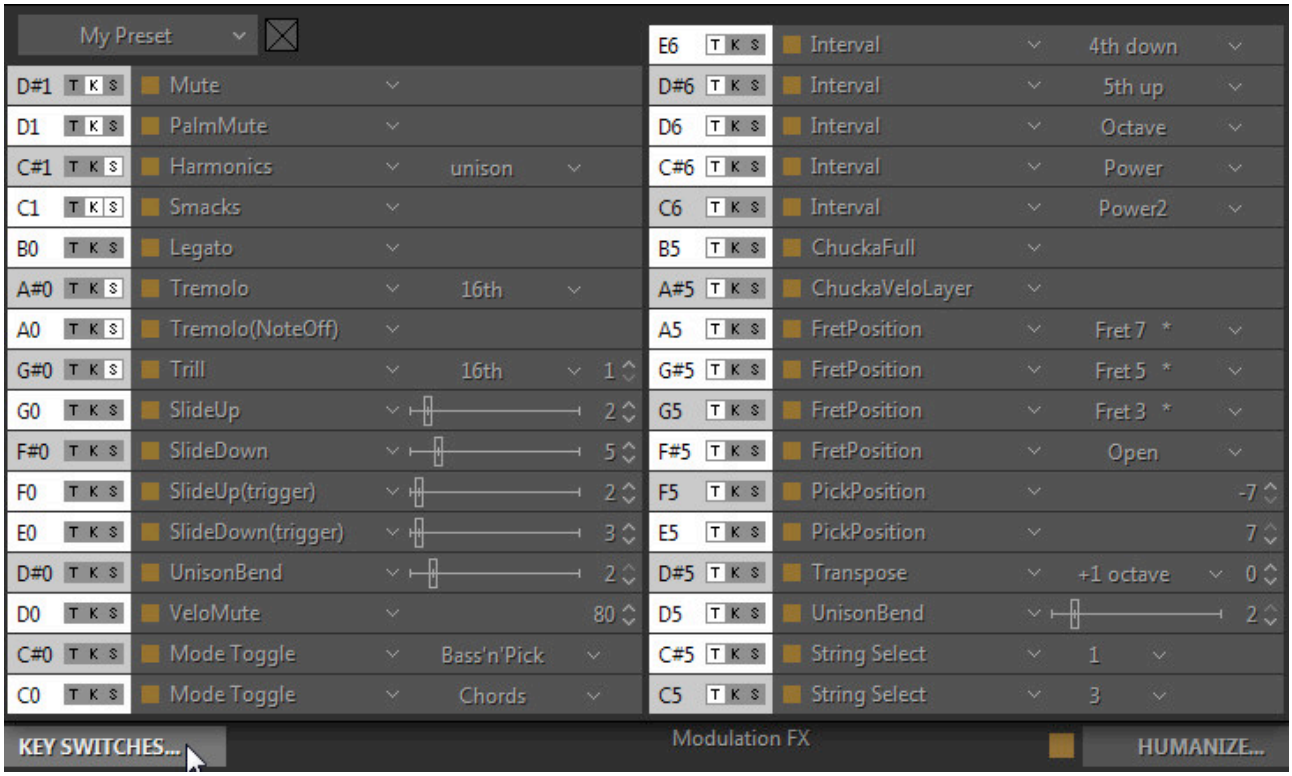
You can switch on various RealGuitar Effects selected in **Modulation Switch FX** box by simply moving normal Modulation Wheel of your MIDI keyboard. Releasing Modulation Wheel to '0' position turns the Effect off.

Note, when Modulation FX box is activated effect assigned in M.W. box at the right will not work.

Key Switch Effects

RealGuitar numerous guitar Effects can be triggered in Solo mode using the advanced Key Switch system allowing to assign various FXs on Repeat Zone keys as well as easily create and use custom presets in RealGuitar **Key Switch panel**.

To open Key Switch panel click on Key Switches button on the left lower part of Solo mode window:



Key Switch panel

You see two columns of FX boxes corresponding to Left and Right Repeat Zone keys (C0-D#1 for the Left zone, C5-E6 for the Right zone).

Select Effect for a key in pull-down menu and click **FX Enable LED** button in the left part of FX box to activate it. Now pressing the correspondent key of Repeat zone will turn on selected FX, and change the box color to a light grey to indicate that FX is turned on.

Note, that activating **FX Enable LED** of any key switch will also be displayed on the RealGuitar virtual keyboard. Moreover triggering FX will also change color of a virtual keyboard key to a light blue, giving you full visual control.

Three small buttons (clickable on/off) at the left of each FX box allow additional control of the Key Switch and FX:

'T' button ('toggle'):

On **-** indicates that the FX is toggled on and off each time the key switch is pressed (releasing the key is ignored).

Off - indicates that the FX is only enabled while the key is kept pressed (releasing the key turns the FX off).

'K' button ('key through') - when activated allows to switch FX and let the key switch simultaneously function as normal Repeat key (white for Full sound, black for Muted sound).

'S' button ('sustain') adds sustain function to FX, similar using the Sustain Pedal.

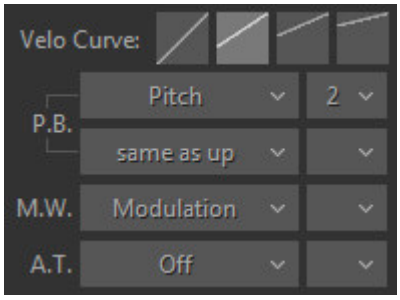
Note, Right Key Switches (Right Repeat zone) are 'toggles' by default, while Left Key Switches (Left Repeat zone) are not.

You can save all settings made in Key Switch panel as user presets for future use.

To create a preset, click on Preset combo box to activate Edit mode, type in the preset name, and press Enter on computer keyboard. Preset will be saved within RealGuitar and added to Preset list.

To delete preset simply click on Delete icon at the right.

MIDI Controller pane (Solo Mode)



Velo curve - select the output velocity curve for your performance by pressing one of 4 buttons.

You can assign various guitar effects to standard MIDI controllers:

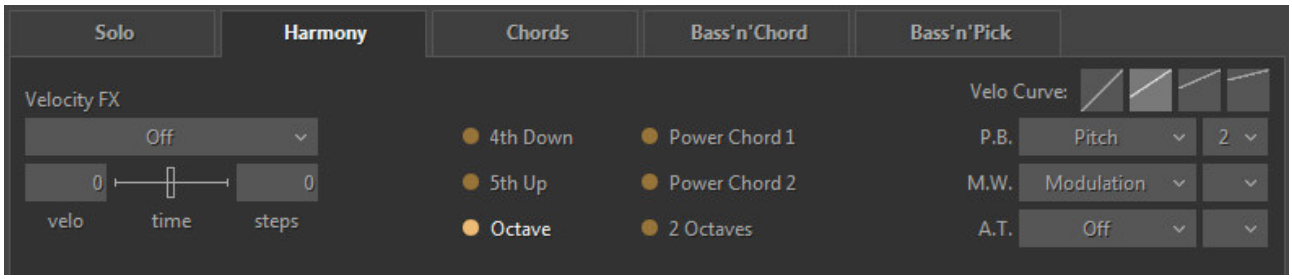
- **P.B. Up** (Pitch Bender, upper combo box) - Off, Pitch, Slide, VeloAdd, MonoBend, Sustainer (triggers Sustainer FX simultaneously with pitch shifting).
- **P.B. Down** (Pitch Bender, lower combo box) - 'same as Up', Pitch, Slide, VeloAdd, MonoBend, Sustainer (triggers Sustainer FX simultaneously with pitch shifting).
- **M.W.** (Modulation Wheel) - Pitch, Slide, Modulation.
- **A.T.** (After Touch) - Pitch, Modulation, Sustainer, FeedBacker.

In the combo box to the right adjust the maximum range of pitch shifting/sliding (in semi-tones). Modulation envelope is adjusted in Tune panel (Left Menu bar in the upper left corner of RealGuitar window).

Hold button in Solo mode

In Solo mode the Hold button works differently from the other modes, where it actually substitutes the Sustain Pedal. In Solo mode when Hold button is on, any pressed and held key can be used for sustaining the following notes.

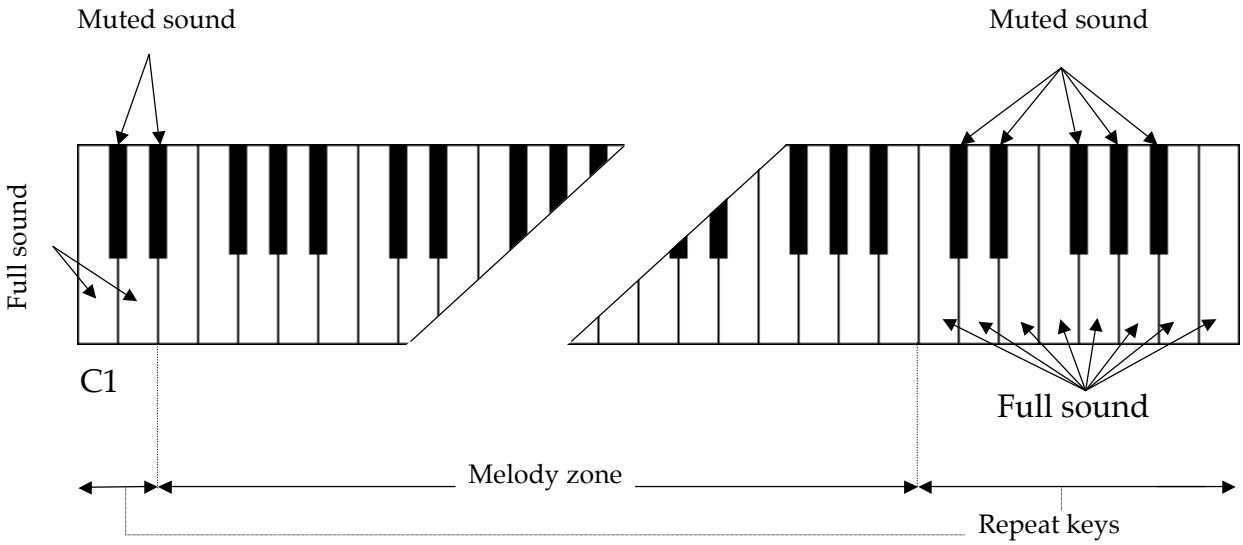
Harmony Mode



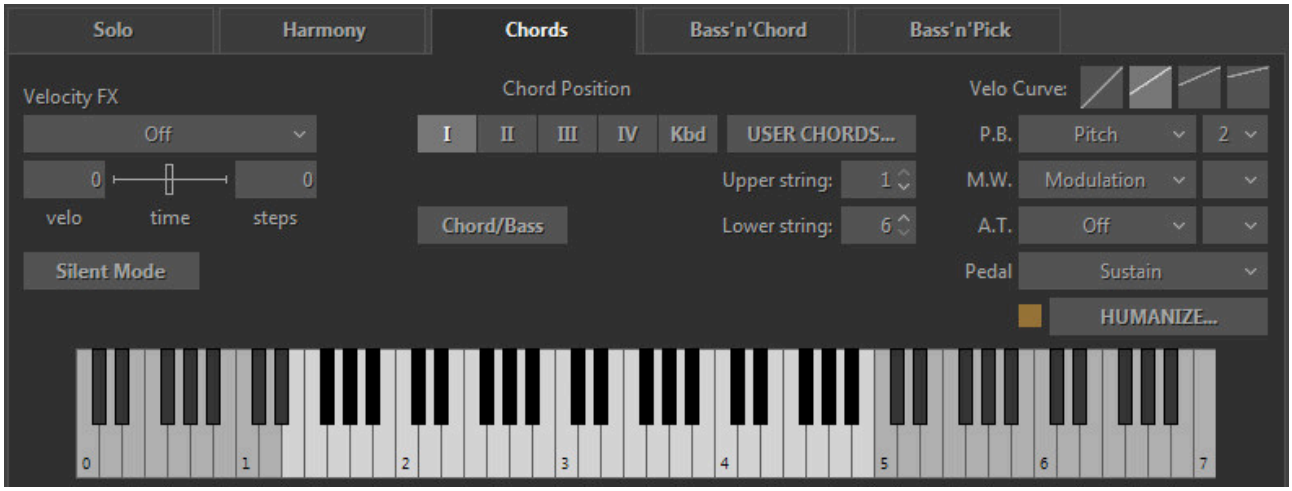
Harmony mode window

In this monophonic mode any key of the Main zone triggers an interval/chord based on the played note, previously chosen from following options: 4th down, 5th up, Octave (up), Power Chord 1 (5th + 4th up), Power Chord 2 (4th + 5th up), 2 octaves (up).

The keys of both Repeat zones (left and right) allow you to repeat the interval taken in the Main zone (white keys repeat full sound, while black keys repeat muted sound of the same notes).



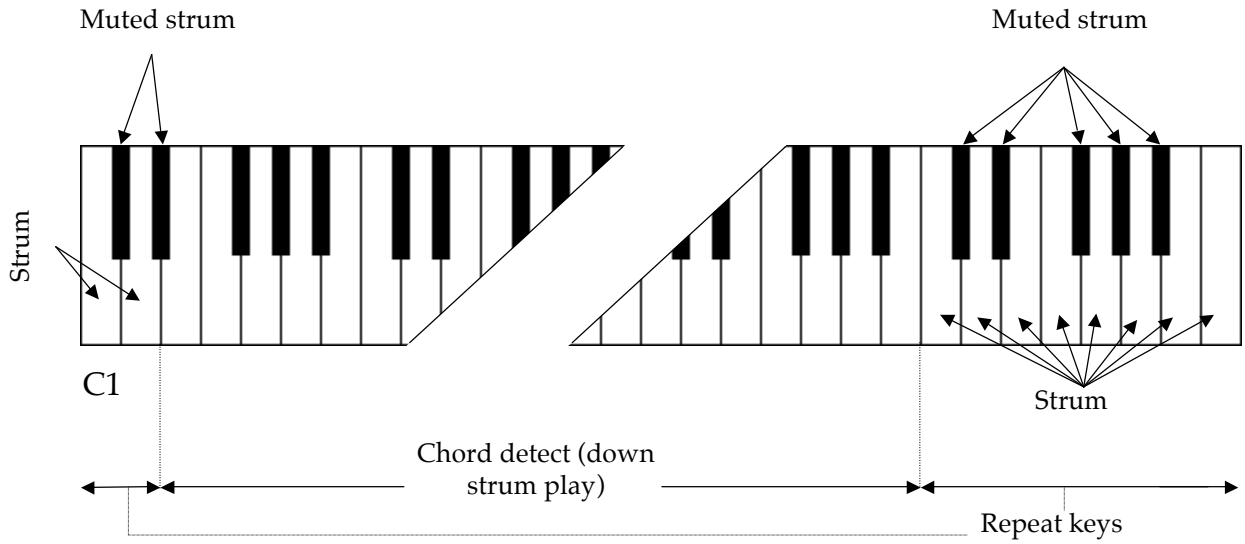
Chords Mode



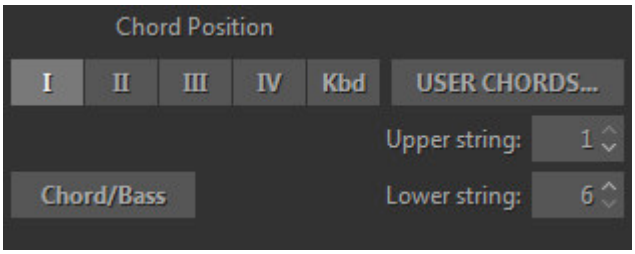
Chords mode window

In this mode RealGuitar detects the chord played in the Main zone of the keyboard (the root note and the name of the chord appear on the black info screen), builds a guitar version of the chord considering the selected Chord position and current position of a 'Capo' strip on the Fretboard, and finally plays it using a down strum technique.

Any key of Repeat zone repeats the whole chord played in the Main zone: black keys play muted strums, while white keys play strums when the chord is still held and muted strums when the keys in the Main zone are released. Up and down strums are triggered by neighboring keys for both white and black keys of the Repeat zones, like C1 - up strum, D1 - down strum, C6 – down strum, B5 - up strum and so on.



Controls



Chord position - selects the melodic position range for the built chords.

I - the highest note is between E3 and G#3

II - the highest note is between G3 and B3

III - the highest note is between A#3 and D4

IV - the highest note is between C#4 and F4

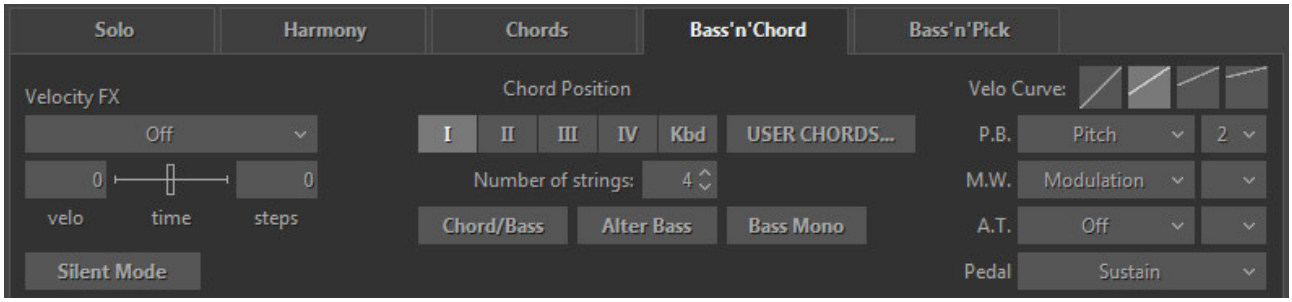
Kbd - the melodic position range of the built chord depends on the octave position of the chord taken in the Main zone of the keyboard (with borders between E and E of the next octave).

User Chords - opens Chord Editor.

Upper/Lower Strings - allow disabling upper and/or lower strings in chords, so you can pare your strums down to any five, four, three, two or just a single string by selecting the first available string# in upper/lower numeric boxes (e.g. selecting 2/5 will disable the 1st and 6th strings in the strums).

Chord/Bass - switches on the X/Y chord detect mode letting you construct major/minor triad chords with any desirable note in the Bass, e.g. A/G (A major chord over G bass) for G-A-C#-E voicing, D/F# (D major chord inversion with F# bass note) for F#-A-D voicing, F/G (F major chord over G bass) for G-A-C-F voicing, etc…

Bass & Chord Mode

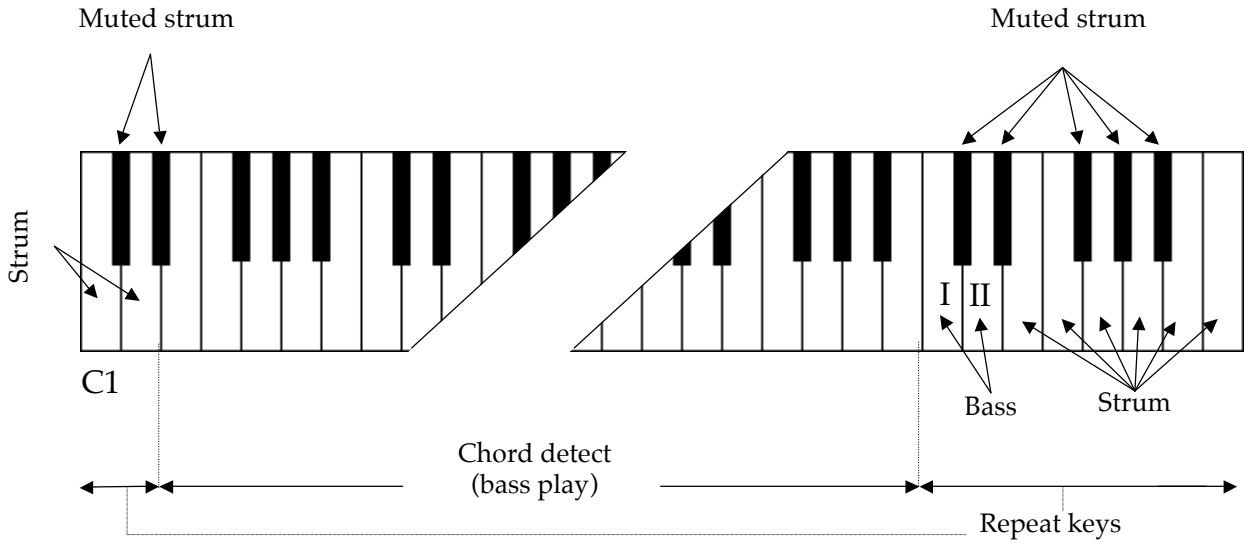


Bass & Chord mode window

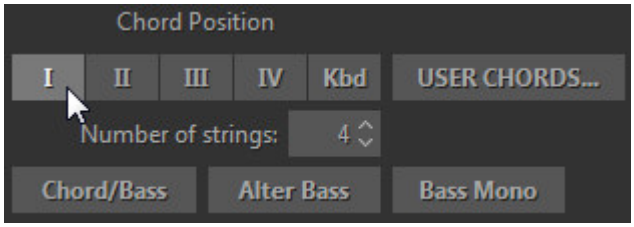
In this mode RealGuitar detects the chord taken in the Main zone of the keyboard, builds its guitar version and plays its Root note (Bass I) only. The Repeat zone keys now have the following functions:

- C5 triggers Bass I (Root note).
- D5 triggers Bass II (Alternative bass, usually the 5th degree of the chord).

The rest of the keys in both right and left Repeat zones trigger up and down strums of the upper strings of the chord, black keys perform muted strums of the same strings).



Controls



Chord position - selects the melodic position range for the built chords.

User Chords - opens Chord Editor

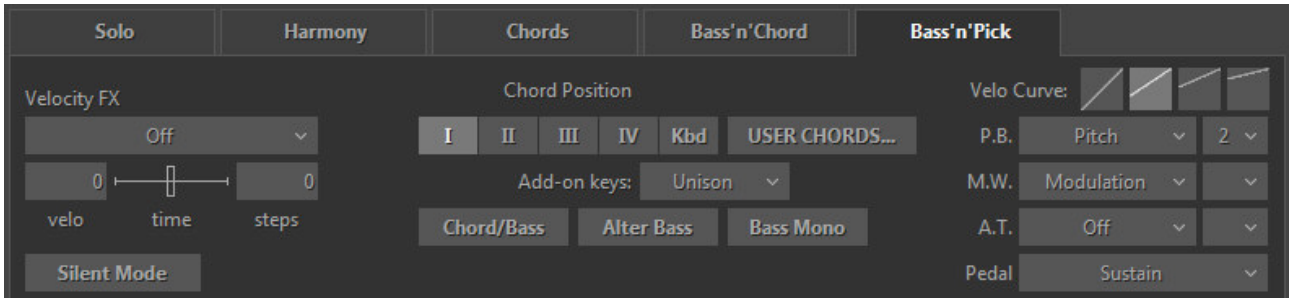
Number of Strings - specifies the number of sounding strings in chords triggered by Repeat zone keys.

Chord/Bass - switches on the X/Y chord detect mode letting you construct major/minor triad chords with any desirable note in the Bass.

Alter Bass - automatically alternates between Bass I and Bass II when the same chord is taken in the Main zone.

Bass Mono - mutes Bass I note when the next Bass II is played.

Bass & Pick Mode



Bass & Pick mode window

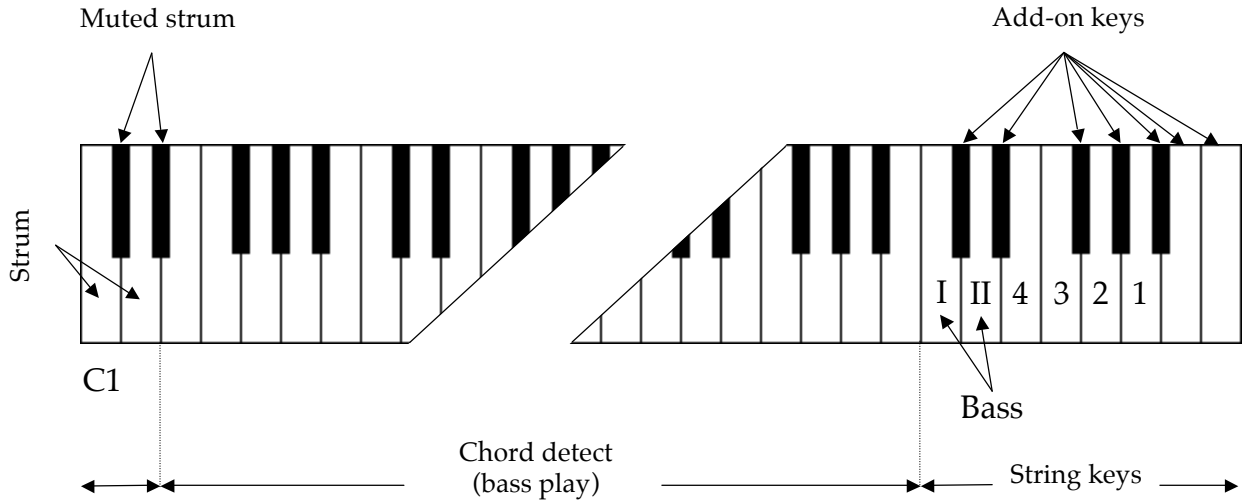
In this mode RealGuitar identifies the chord taken in the Main zone, builds its guitar version and plays only its Root note (Bass I).

The Repeat zone keys trigger each voice of the chord separately, just as if you'd play it string-by-string on real guitar in the following way:

- C5 triggers Bass I (Root note)
- D5 triggers Bass II (alternative bass)
- E5 triggers 4th string
- F5 triggers 3rd string
- G5 triggers 2nd string
- A5 triggers 1st string

The other keys function as chosen in the **Add-on string keys** combo box.

The keys of the left Repeat zone strum 4 upper voices of the chord (black keys perform muted strums).



Controls

Chord position - selects the melodic position range for the built chords.

User Chords – opens Chord Editor

Add-on string keys:

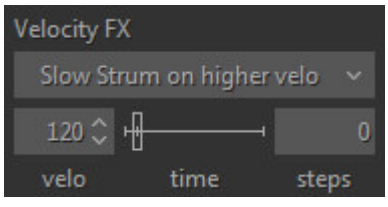
- **Unison** - doubles some strings for making single-string tremolo performance easy: C#5 - Bass II, D# 5 - 4th string, F#5 - 2nd string, G#5, A#5, B5, C6 - 1st string.
- **Chromatic** - sets the Add-on string keys to play notes one semi-tone down from their respective string voices: C#5 - a semi-tone down from Bass II, D#5 – a semi-tone down from 4th string, F#5 - a semi-tone down from 2nd string, G#5 - a semi-tone down from 1st string; however A#5 - C6 add a semi-tone each to the sound of 1st string.
- **Mute** - all add-on keys trigger Muted chord.
- **Harmonics** - Add-on black keys (C#5 through A#5) trigger Harmonics for current chord notes

Chord/Bass - switches on the X/Y chord detect mode letting you construct major/minor triad chords with any desirable note in the Bass.

Alter Bass - automatically alternates between Bass I and Bass II when the same chord is taken in the Main zone.

Bass Mono - mutes Bass I note when the next Bass II is played.

Velocity Switch FXs (Harmony, Chords, Bass&Chord, Bass&Pick)



There are a number of guitar effects automatically triggered by note velocity values employed in RealGuitar:

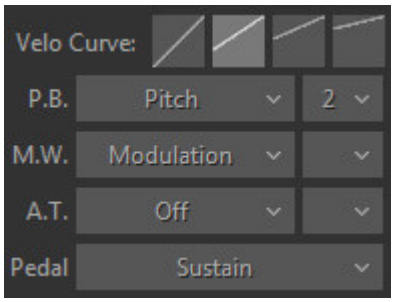
- **Slow Strum on Higher Velo** - in all chordal modes you can set a velocity value, after which the program will perform slow strum when playing a chord in the Main zone.
- **Slow Strum on Lower Velo** - in the same way you can set a velocity value below which the program will perform slow strum when playing a chord in the Main zone.

- **Slide up** - slides up to taken note(s).
- **Slide down** (Fall) - slides down from taken note(s).

You can set the following independent parameters for each effect:

- **Velo** (input velocity threshold).
- **Time** (effect duration).
- **Steps** (range in semi-tones).

MIDI Controllers pane (Chords, Bass&Chord, Bass&Pick)



Velo curve – select the output velocity curve for your performance by pressing one of 4 buttons

You can assign various guitar effects to standard MIDI controllers:

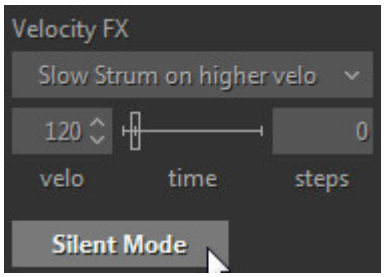
- P.B. (Pitch Bender) - Pitch, Slide, VeloAdd.
- M.W. (Modulation Wheel) - Pitch, Slide, Modulation.
- A.T. (After Touch) - Pitch, Modulation.

In the combo box to the right adjust the range of the effect (in semi-tones).

Modulation envelope is adjusted in Tune panel (Left Menu bar in the upper left corner of RealGuitar window).

- Pedal - you can use Sustain Pedal to switch various effects on:
    - Sustain - normal sustain mode.
    - ChuckaFull - switches on ChuckaFull FX.
    - ChuckaMutes - switches on ChuckaMutes FX.
    - ChuckaMute Sust - switches on ChuckaMutes FX, simultaneously sustains the sound.
    - Open Strings Lock - switches on Open Strings Lock FX (open strings used in the current chord will stay in voicings of the next chords, until the FX is Off).

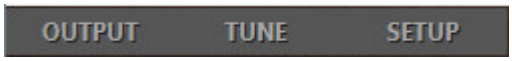
Silent mode (Chords, Bass&Chord, Bass&Pick)



All chordal modes allow to use 'silent' mode by activating Silent mode button. When Silent mode is on, the keys in the Main zone don't make any sound, they just define the chords; all strumming and picking is done with keys in the Repeat and Pattern zones. You can use this option any time you want to control chord definition and strumming/picking independently.

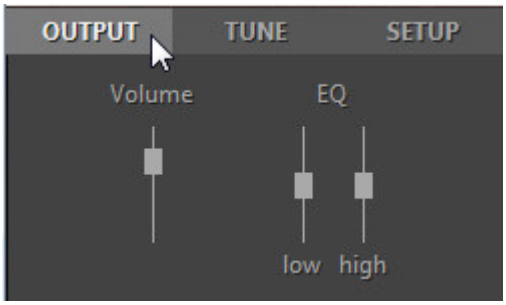
Main Controls

Left Menu bar



In the Left Menu bar you can get access to 3 panels to make global settings: **Output panel**, **Tune panel**, and **Setup panel**.

Output panel

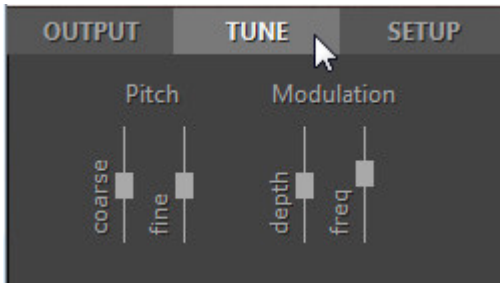


Volume (+10/-30db) - adjust output volume.

EQ - adjust internal equalizer parameters:

- High (+/- 10db).
- Low (+/- 10db).

Tune panel



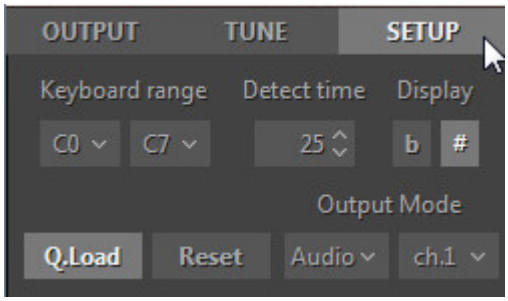
Pitch - adjust the master pitch:

- Coarse (+/-12 semitones).
- Fine (+/-100 cents).

Modulation - adjust the modulation envelope affected by Modulation controller (MIDI CC#1):

- Depth (0-100%).
- Freq (0.2 - 8.0 Hz).

Setup panel



Keyboard range (C0- C7) - set the range of your keyboard.

Chord Detect time (0-50ms) - set the suitable delay for detecting chords taken in chord modes.

Display chords (# /b) - select sharps or flats for the chord names.

Q.Load - pressing Quick Load button allows to quickly load samples and drastically save RAM.

Reset - resets all modified parameters in all modes to their factory values.

Output mode – select between Audio, MIDI, Both options.

Using MIDI Out functionality, the actual MIDI output, including arpeggios, patterns, and strums generated by notes you play in the "Repeat Zones", can be played back through any other synth or sampler. Most (but not all) DAWs that support MIDI input from a virtual synth support recording its MIDI output as well.

Here are a few reasons you might want to take advantage of MIDI Output functionality:

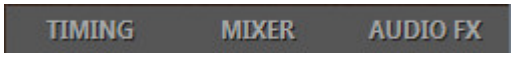
1. To double the RealGuitar sound with another synth/sampler
2. To replace your guitar part with another sound altogether
3. To generate a MIDI file that's readable by your notation program

The "Audio/MIDI/Both" options are important, and as follows:

- **Audio**: You'll hear the RealGuitar samples only, just as you would if you weren't sending MIDI Out to your synth.
- **MIDI**: You'll hear only the synth being driven by the MIDI output from RealGuitar. The RealGuitar samples will not sound.
- **Both**: You'll hear both the RealGuitar samples and the synth being driven by the MIDI output from RealGuitar.

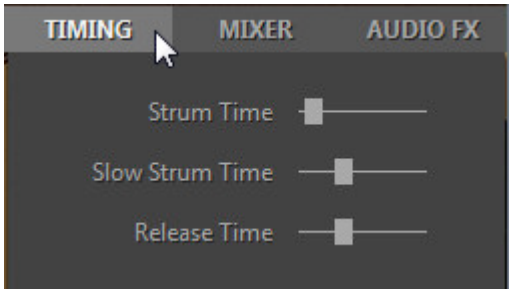
Select "MIDI" or "Both" to take advantage of MIDI Out functionality.

Right Menu bar



In the Right Menu bar you can get access to Timing panel, Mixer panel, and Audio FX panel:

Timing panel

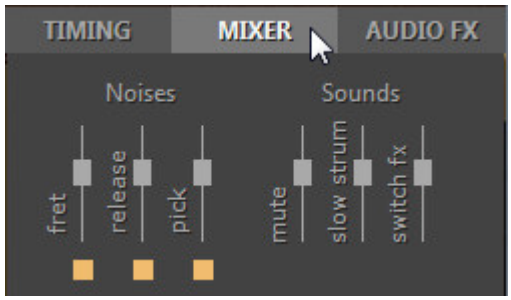


Strum time (20-200ms) - adjusts the time between the notes played in the strumming chords (Harmony, Chords, and Bass & Chord modes) as well as delay for more than one note played simultaneously in Solo and Bass & Pick modes.

Slow Strum time (45-300ms) - adjusts the strum time for Slow Strum strokes.

Release time (50-200%) - adjusts how long the note sounds after releasing the key (MIDI note end).

Mixer panel



2 Mixer sections allow adjusting the volume of various noise effects and additional sounds that form the modeled guitar sound.

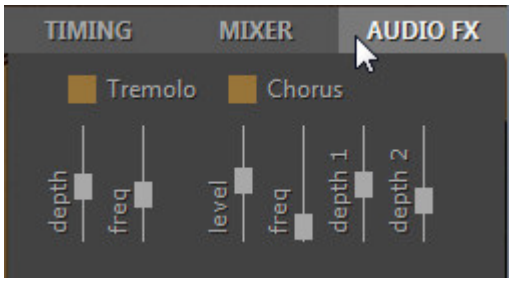
Noises:

- Fret - volume and on/off of a fret noise.
- Release - volume and on/off of a release noise.
- Pick - volume and on/off of additional pick noise.

Sounds:

- Mute - volume of muted sound triggered by Repeat zone keys and used as FX.
- Slow Strum - volume of Slow Strum sound (Velocity switch FX in chordal modes).
- Switch FX - volume of all additional sounds (Key/Pedal switch FXs in Solo mode).

Audio FX panel



1. **Tremolo** - adjust stereo tremolo parameters:

- Depth (0-10%)
- Freq (0.2-12 Hz)

2. **Chorus** – adjust stereo chorus parameters:

- Level (0-100)
- Freq 1 (0.1-6.0 Hz)
- Depth 1 (0-100%)
- Depth 2 (0-15)

Common

Hold (on/off) - actually substitutes the Sustain Pedal in all modes, except for the Solo.

In Solo mode when Hold button is on, any pressed and held key in the Main zone can be used for sustaining the following notes.

Auto (on/off) - toggles between Auto and Manual mode of Floating Fret Position. Auto works only in melodic modes (Solo, Harmony). Manual mode allows changing the fret position by right-clicking on the Fretboard.

Accent (0-127) - adjusts the velocity threshold between soft and hard performance dynamics

Alter samples (1-5) - provides 5 positions of randomly alternating samples while performing repetitive notes (position 1 provides up to 3 different samples, while position 5 provides up
to 10 different samples).

RealGuitar Effect Table and Description

Mute	Effect, Key/Pedal/Mod.Wheel/Velocity Switch
Palm Mute	Effect, Key/Pedal/Mod.Wheel/Velocity Switch
Harmonics	Effect, Key/Pedal/Mod.Wheel/Velocity Switch
Smacks	Effect, Key/Pedal/Mod.Wheel/Velocity Switch
Legato (1-2 Steps)	Effect, Key/Pedal/Mod.Wheel Switch
HammerOn (Legato)	Effect, Key/Pedal/Mod.Wheel/Velocity Switch
Slide (Legato)	Effect, Key/Pedal/Velocity Switch
Repetition (NoteOff)	Key/Pedal/Velocity Switch
Tremolo	Effect, Key/Pedal/Velocity Switch
Tremolo 1-beat	Effect, Key/Pedal/Velocity Switch
Trill	Effect, Key/Pedal/Velocity Switch
Trill 1-shot	Effect, Key/Pedal/Velocity Switch
Slide Up	Key/Pedal/Mod.Wheel/Velocity Switch*, P.Bender
SlideUp (trigger)	Key Switch
Slide Down (Fall)	Key/Pedal/Mod.Wheel/Velocity Switch*, P.Bender
SlideDown (trigger)	Key Switch
Bend	Key/Pedal/Velocity Switch
Reverse Bend	Key/Pedal/Velocity Switch
Unison Bend	Key/Pedal/Mod.Wheel/Velocity Switch
Hold (1-2 Steps Mono)	Effect, Key Switch
Interval	Effect, Key/Pedal/ Mod.Wheel/Velocity Switch
Fret Position	Mouse*, Key/Pedal Switch
PickPosition	Mouse*, Key/Pedal Switch
String select	Key Switch
Chucka FullRange	Effect, Key/Pedal* Switch
Chucka MuteKeys	Effect, Key/Pedal* Switch
Chucka VeloLayers	Effect, Key/Pedal/Mod.Wheel/Velocity Switch
Mode Toggle	Key/Pedal/Mod.Wheel Switch
velo>	Key/Pedal/Velocity Switch
velo<	Key/Pedal/Velocity Switch
Transpose	Effect, Key/Pedal/Mod.Wheel/Velocity Switch
Fret Noise (trigger)	Key/Pedal/Mod.Wheel/Velocity Switch
MonoBend (lower note bend)	P.Bender, Mod.Wheel
VeloAdd (velo +/- control)	P.Bender
Open Strings Lock**	Pedal Switch
Slow Strum**	Velocity Switch

All FXs are available in Solo mode except for the marked:

* *- available in Chords, Bass&Chord, Bass&Pick modes as well.*

** *- available only in Chords, Bass&Chord, Bass&Pick modes.*

Mute FX - left-hand muted sound for notes in the Main zone. Note that the volume of the Mute FX is controlled by Mixer > Sounds > Mute slider.

PalmMute FX - sound muted near the guitar bridge for notes in the Main zone. It is a similar effect to Mute FX, however produces a slightly different sound. Note that the volume of the PalmMute FX is controlled by FxMixer > Palm Mute slider.

Harmonics FX - chromatic Artificial Harmonic sound for notes in the Main zone. Note that the volume of the Harmonics FX is controlled by FxMixer > Hrmnx slider.

Smacks FX - 46 different string scrapes, each controlled by the different notes in the Main zone ranging from E1 to C#5. Note that the volume of the Smacks FX is controlled by FxMixer > Smacks slider.

HammerOn (Legato) FX produces Hammer-On/Pull-Off articulation. Hammer-On and Pull-Off guitar effects enable the playing of grace notes, mordents, trills with a single pick (and single initial attack). With Hammer-On enabled, press and hold a single key. When a second key is played, it plays without the initial attack and stops the first note. While continuing to hold the first key, release the second key and the first note is played again without the initial attack. When the second key is played higher than the second key, this is typically called a hammer-on. If the second key is lower than the first key, this is typically called a pull-off. The Hammer-On effect has a numeric box allowing the user to select in semi-tones the greatest distance between the first and second note played to be triggered with the Hammer-On/Pull-Off effect.

Slide (Legato) FX produces sliding articulation between two notes played legato (glissando with initial attack on the first note only). The Slide FX numeric box controls the maximum number of semi-tones between two notes that the slide FX will occur. The Slide FX slider controls the speed of the slide.

Repetition (NoteOff) FX automatically plays additional same note(s) on key(s) release allowing to produce semi-automatic tremolo with easy dynamics control.

Tremolo FX plays the note(s) repeatedly with the base speed provided by the Tempo setting (is synched with host's tempo). Multiples above the Tempo setting are controlled by the Tremolo FX pull-down menu with choices of 4th, 4T (triplet), 8th, 8T, 16th, 16T, 32nd, 32T, 64th, and 64T note durations. Note that while Tremolo FX is enabled any secondary notes played are sustained for as long as the first note is played.

Tremolo 1-beat FX works similar **Tremolo FX** but plays number of notes fitting in one beat of a measure before sustaining. The speed is controlled by the Tempo setting (is synched with host's tempo).

Trill FX plays a continuous trill for as long as the note(s) is held. The Trill FX numeric box specifies (in semi-tones above the note(s) played) the interval of the trill. The speed of the trill is controlled by the Tempo setting and the Trill FX pull-down menu with choices of 4th, 4T (triplet), 8th, 8T, 16th, 16T, 32nd, 32T, 64th, and 64T note durations.

Trill 1-shot FX plays a mordent ahead of the note(s) played. The Trill 1-shot FX numeric box specifies (in semi-tones above the note(s) played) the interval of the mordent. The speed of the mordent is controlled by the Tempo setting and the Trill 1-shot FX pull-down menu with choices of 4th, 4T (triplet), 8th, 8T, 16th, 16T, 32nd, 32T, 64th, and 64T note durations.

SlideUp FX articulates automatic slide up TO the note(s) played. The SlideUp FX numeric box specifies (in semi-tones) the interval to start the slide from. The SlideUp FX slider controls the speed of the slide.

SlideUp (trigger) FX triggers automatic slide up FROM the sustaining note(s). Velocity of trigger key affects slide dynamics.

SlideDown FX articulates automatic slide down FROM the note(s) played. The SlideDown FX numeric box specifies (in semi-tones) the destination interval for the slide. The SlideDown FX slider controls the speed of the slide.

SlideDown (trigger) FX triggers automatic slide down FROM the sustaining note(s). Velocity of trigger key affects slide dynamics.

Bend FX articulates automatic bend up TO the note(s) played. The Bend FX numeric box specifies (in either 1 or 2 semi-tones) the interval to start the bend from. The Bend FX slider controls the speed of the bend.

ReverseBend FX articulates automatic 'pre-bend and release' down to the note(s) played. The ReverseBend FX numeric box specifies (in either 1 or 2 semi-tones) the interval to start reverse bend from. The ReverseBend FX slider controls the speed of the bend.

UnisonBend FX articulates two notes played, one being the played on the Main zone, and the second one starting from one or two semi-tones below is bent up to the note played. The UnisonBend FX numeric box controls if the second bent note starts from one or two semi-tones below. The UnisonBend FX slider controls the speed of the bend.

Hold FX provides sustain effect similar to the Sustain Pedal.

Interval FX plays additional note(s) to the one played in the Main zone. Interval FX pull-down menu options are: mono, 4th down, 5th up, Octave up, Power (5th + 4th up), Power2 (5th + 4th up), 2 Octaves up, Power Oct (two power chords in octave) and Power 2 Oct (two power chords 2 in octave). Note that when Interval FX is enabled, the keyboard is in monophonic mode and only a single key can be played at a time.

FretPosition FX controls the Capo along the fretboard. The FretPosition FX pull-down menu option of "D#5 … C6" allows the Capo to be controlled by the 10 Right Repeat keys starting from D#5, up to C6 selecting the 18th fret. The FretPosition FX pull-down menu option of "Open" forces the Capo to remain open. The remaining pull-down menu options select one of the 18 frets (frets numbers marked with *, or ** correspond to the frets marked on the RealGuitar fretboard).

PickPosition FX controls the position of the pick on the strings to provide different sound (farther or closer to the bridge). The PickPosition numeric box ranges from -7 to +7. The Pick Position can also be changed via the main RealGuitar window by clicking and dragging the pick to the left or right on the high E-string.

String Select FX allows to manually select the needed string, which lets you play as many notes on the selected string as possible for the string range.

ChuckaFull FX provides muted chords in 4ths (so called, chucks) played in the Main zone which emulates 'chucka-chucka' guitar technique. Main zone is in mono mode with each key triggering individual chord/fret. With notes played from E3 and higher, ChuckaFull FX chords will move higher with each increased semi-tone along the fretboard. Right Repeat zone keys repeat the chords played in Main zone and can alternate between two string groups: D#5 through F#5 trigger lower strings (5-4-3 strings), and G5 and higher trigger upper strings (3-2-1 strings). Left Repeat keys (D#1 and lower) repeat the last layer produced in Right Repeat zone.

ChuckaMuteKeys FX provides muted chords in 4ths with Black Repeat (Mute) keys (Main zone and white keys of Repeat zone continue to work normally). Right Repeat zone Mute keys can alternate between two string groups: D#5 through F#5 trigger lower strings (5-4-

3 strings), A#5 and higher trigger upper strings (3-2-1 strings), and Left Mute keys (D#1, C#1, etc..) repeat the last layer produced in Right Repeat zone.

ChuckaVeloLayers FX provides muted chords in 4ths played in the Main zone similar to ChuckaFull FX, however can produce 3 velocity controlled string groups by any key of the whole range. Low velocity strokes trigger 5-4-3 string layer, middle velocity strokes trigger 4-3-2 strings layer, while high velocity strokes trigger 3-2-1 string layer (the higher velocity value - the higher string group is triggered).

Mode Toggle FX toggles from Solo mode to Chords, Bass&Chord, or Bass&Pick mode and back to Solo.

Velo > FX activates higher Velocity Switch FX selected in Higher Velocity Switch box.

Velo < FX activates lower Velocity Switch FX selected in Lower Velocity Switch box.

Transpose FX - transposes all notes by the selected interval (+/- 3 octaves)

Fret Noise (trigger) FX triggers Fret Noise sound. Enabling the FX will switch off the automatic Fret Noise generating on note-offs.

MIDI controller additional FXs

MonoBend FX (Pitch Bender and Modulation Wheel) applies pitch bending: a) only to the lowest of simultaneously played notes, b) only to the first bent and held note, allowing to emulate guitar specific single-string bending techniques: Unison Bend, Bend/Release combined with sustained note(s), etc…

Example 1 - assign MonoBend to P.Bender, press and hold 2-3 notes in Main zone, them move P.Bender - only the lower note will be bent (if you then move P.Bender back while holding all played notes only the first note will be affected).

Example 2 - assign MonoBend to P.Bender, play a note, move P.Bender to bend the note, then holding the first note bent play the second note higher or lower the first one - next note(s) will play their real pitch (if you then move P.Bender back while holding all played notes, only the first previously bent note will be affected).

VeloAdd FX (Pitch Bender) allows continuous adding/reducing velocity value (+/-) to the played notes.

Slide FX (Pitch Bender and Modulation Wheel) allows manual articulation of Up/Down slides from/to played note(s).

Additional FXs found in Chords, Bass&Chords, Bass&Pick modes

Slow Strum on Higher Velo (Velocity Switch FX) - in all chordal modes you can set a velocity value, after which slow strum will be performed when playing a chord in the Main zone.

Slow Strum on Lower Velo (Velocity Switch FX) - in the same way you can set a velocity value below which slow strum will be perform when playing a chord in the Main zone.

Slide up (Velocity Switch FX) produces automatic slide up TO the played note/chord.

Slide down (Velocity Switch FX) produces automatic slide down (Fall) FROM the played chord.

Open Strings Lock (Pedal Switch FX) - in case open strings are used in a chord (such as A Open, E Open) they will be engaged (locked) while other strings will play the notes of the

further chords. When **Open Strings Lock FX** is turned on the further chords played with upper note higher than E3 will automatically move chord position up along the fretboard.

Note, that if Modulation FX box is activated, the effect selected in M.W. (Modulation Wheel) box will not work.

Chord Map

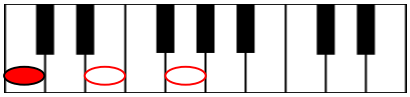
RealGuitar can detect 30 chord types.

The following chart lists the available chord types and the degrees unnecessary for chord detection that you can omit while entering chords.

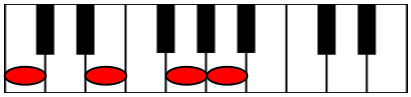
Chord type	Can be omitted
ma	V, III
6	-
add9	-
sus4	-
sus2	-
6/9	V
maj7	V, V+III
maj9	V
maj7(b5)	-
maj7(#5)	-
m	V
m6	-
m(add9)	-
m7	V
m(maj7)	V
m7(b5)	III,
m9	V
m7(11)	VII, V
7	V, III+V
7sus4	-
7(b5)	-
7(#5)	-
9	V
9sus4	V
7(b9)	V
7(#9)	V
9(b5)	-
7(add13)	V
dim7	III, VII, III+VII
aug	-

All chords except ma6, min6, min7(11), ma6/9 are detected in all inversions and note combinations.

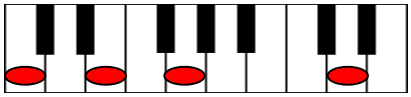
C



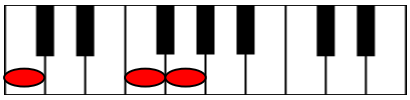
C6



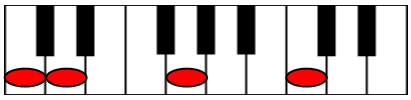
Cadd9



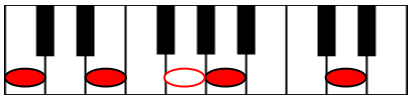
Csus4



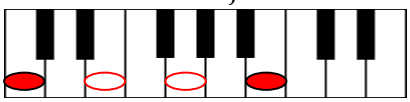
Csus2



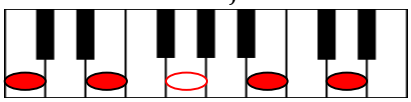
C6/9



Cmaj7

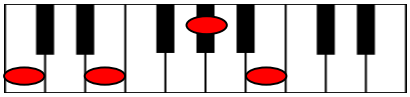


Cmaj9

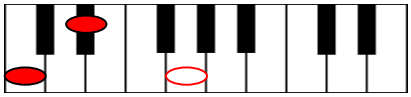


Cmaj7(b5)

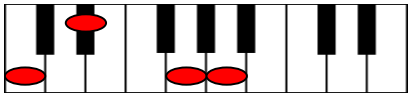
Cmaj7(#5)



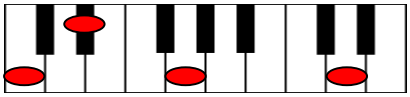
Cm



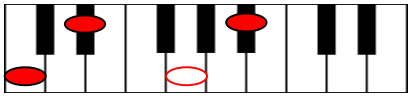
Cm6



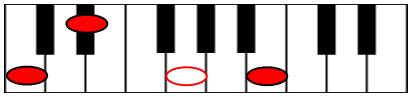
Cm(add9)



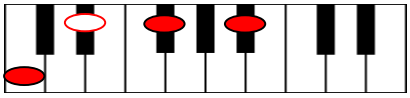
Cm7



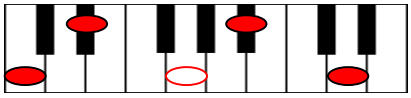
Cm(maj7)



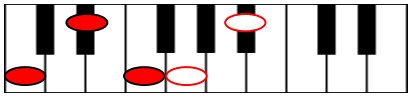
Cm7(b5)



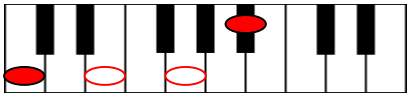
Cm9



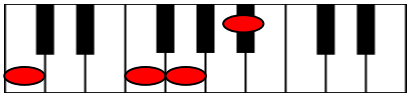
Cm7(11)



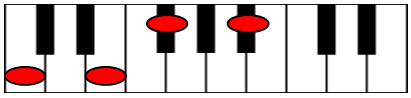
C7



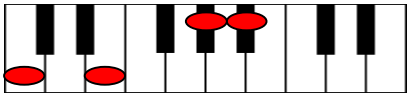
C7sus4



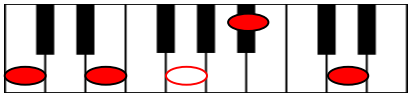
C7(b5)



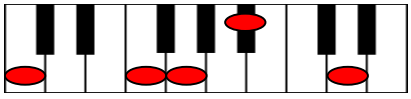
C7(#5)



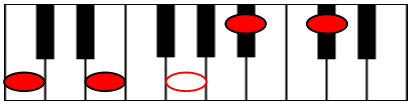
C9



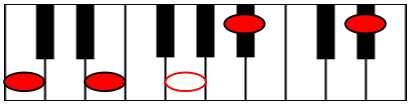
C9sus4



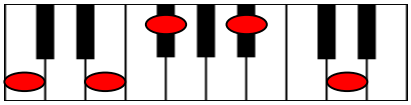
C7(b9)



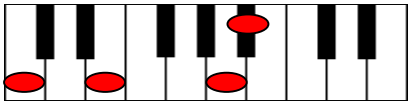
C7(#9)



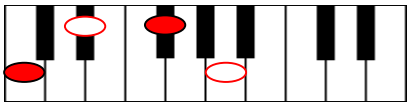
C9(b5)



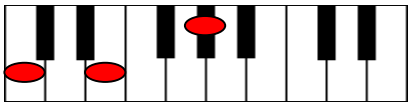
C7(add13)



Cdim7

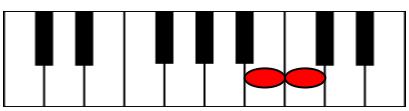


Caug

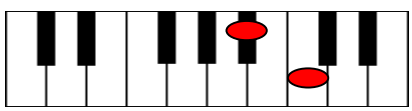


1-note chord detect system also included:

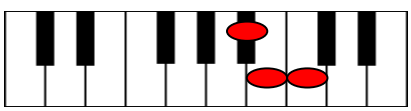
C7



Cm



Cm7



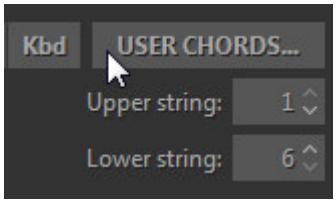
- *obligatory*

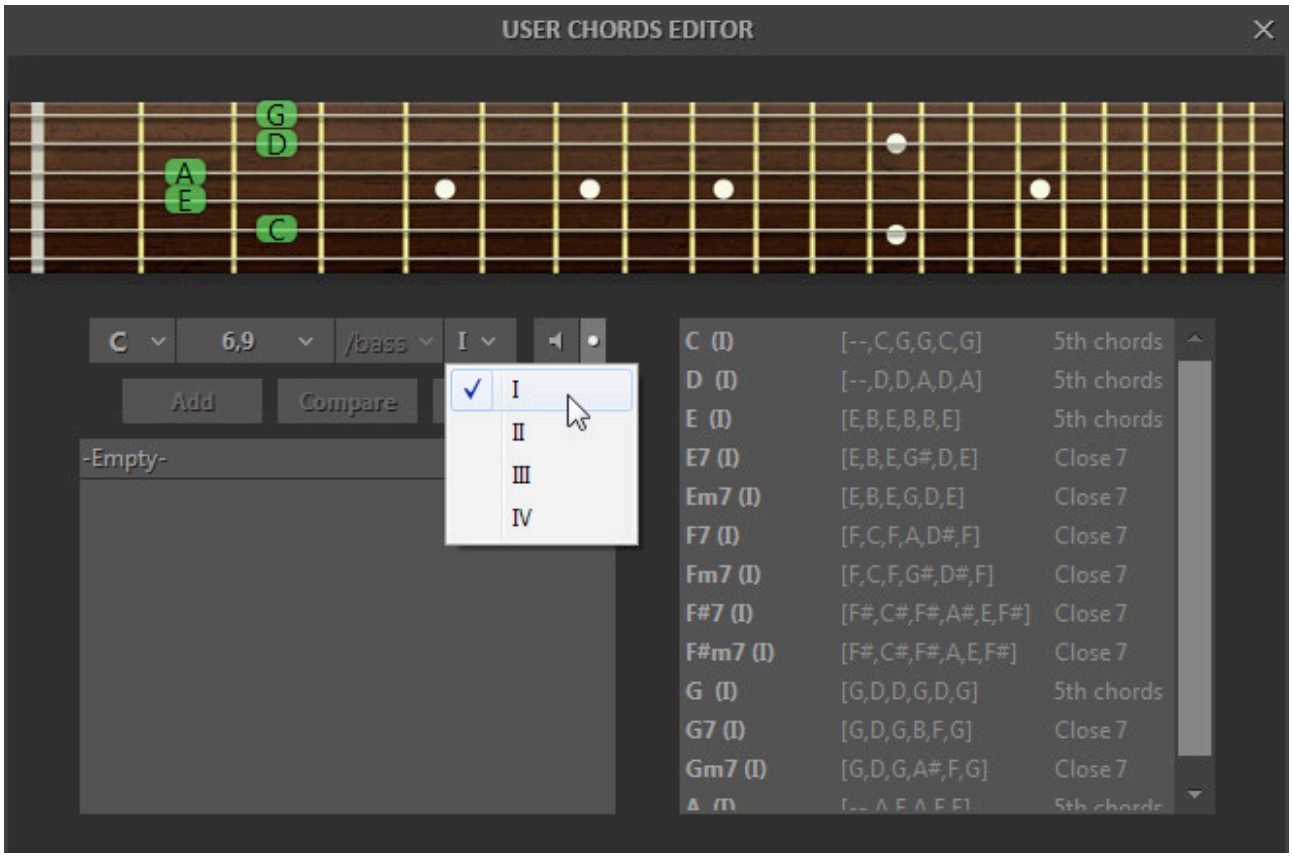
- *can be omitted*

User Chords

Chord Editor implemented in version 3 allows to easily change any factory chord to any fingering you want, and save edited chords within User Chord banks for future use.

Being in any chordal mode click User Chords button to open Chord Editor window:





Chord Editor window

Chord Editor

Select chord you want to edit by pressing keys on external MIDI keyboard, or by selecting Root/Type/Bass/Position in chord select boxes

Editing chords

- Click on fret to change/insert a note
- Click Compare button to compare edited and initial chord
- Click Add/Apply button to add edited chord to current bank
- Click Delete button to remove the selected chord from current Bank.

Note, that any User Chord lowest note will be used as Bass I Stroke for Pattern, Bass&Pick, and Bass&Chord layouts, regardless of Root note in the chord name.

Auditioning chords

a) Press button with speaker icon

Small button at the right with a dot symbol activates Auto audition mode (any loaded or selected chord will be played automatically)

b) Right-click fretboard and strum strings with a mouse.

Saving User Chord Bank

Press Save button, or rename bank and press Enter to save chord bank to Chord Library.

Delete Bank from Library by pressing 'Delete icon'.

All user chord names will be displayed with '*' symbol in the Info bar.

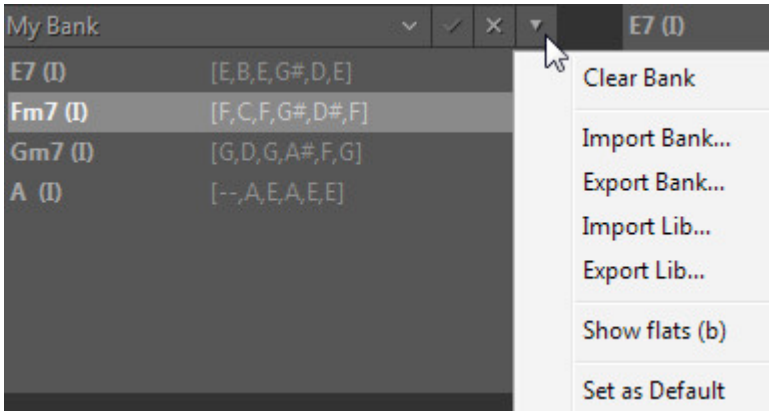
User Chords view

In the right part of Editor window you see the list of all user chords of all Banks you've created (except for current Bank selected in Bank view at the left), which allows you to compare edited chord fingerings from different Banks, as well as copy any user chord from one Bank to another by simply selecting chord in User Chord view list and pressing Add button.

Note, the Bank you select in User Chord Bank combo box will be used for all modes working with chords.

Exporting/Importing User Chord Banks

You can export/import single Chord Banks as well as the whole User Chord Library by clicking button with triangle icon and selecting the appropriate item in pop up menu:



If you want any Bank to load as default every time you run the plug-in, load the bank and check 'Set as default' item in popup menu.

Pattern Global Mode

Using MusicLab Rhythm Pattern Library and Pattern Manager

MusicLab Rhythm Pattern Library is a unique collection of 1250 guitar accompaniment rhythm patterns classified by various musical categories, such as meter, music style, guitar technique, rhythmic feel, tempo range.

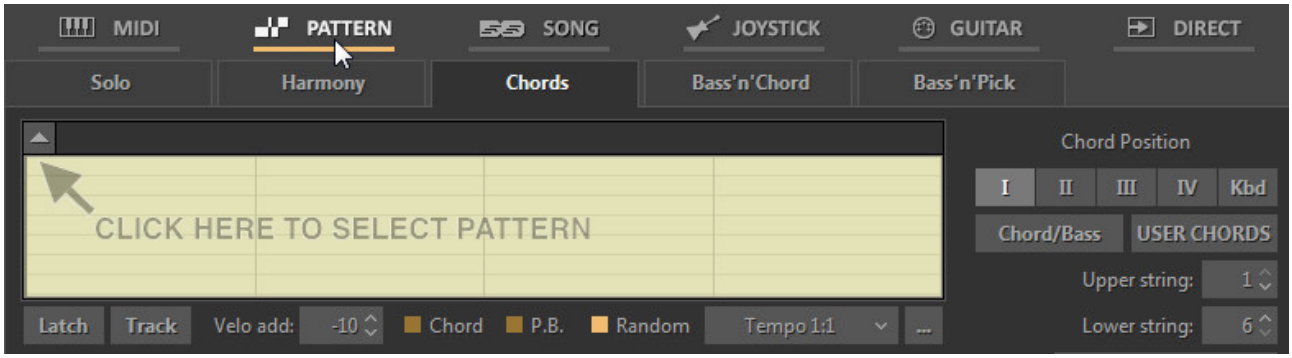
Using the prerecorded rhythm patterns of MusicLab Pattern Library you can quickly create professionally sounding guitar accompaniment tracks for your songs. Then all you have to do is to choose the appropriate pattern(s) in RealGuitar Pattern Manager, copy them to your host sequencer's MIDI track, start sequencer and play chord changes on a MIDI keyboard, or alternatively enter chords to a MIDI track using sequencer's editor.

Pattern Manager

RealGuitar is equipped with powerful multi-functional built-in Pattern Manager allowing to easily audition rhythm patterns of MusicLab Pattern Library, quickly find the ones matching your musical needs, as well as drag'n'drop/export the chosen patterns directly to the host's MIDI track to use with your song.

Pattern Manager Window

Click Pattern button to switch on the Pattern Global mode and get access to Rhythm Pattern Library and Pattern Manager.

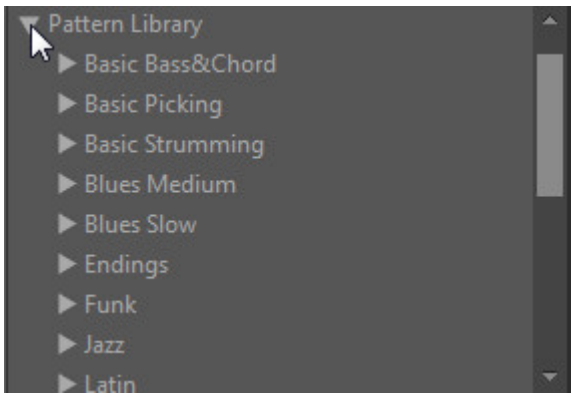


Pattern mode window

Within Pattern Global mode you can select any of Performance modes (Solo, Harmony, Chords, Bass&Chord, or Bass&Pick) by pressing the appropriate performance mode button. Note, that you can use rhythm patterns with all performance modes, the mode selection depends on what harmonic part you want to play with the rhythm patterns:

- Select Chords, Bass&Chord, Bass&Pick modes for automatically constructed guitar chords
- Select Harmony mode to perform intervals with strumming patterns
- Select Solo mode to perform your own chords with strumming or picking patterns

Click the arrow button in the upper left corner to open Pattern Library tree view.



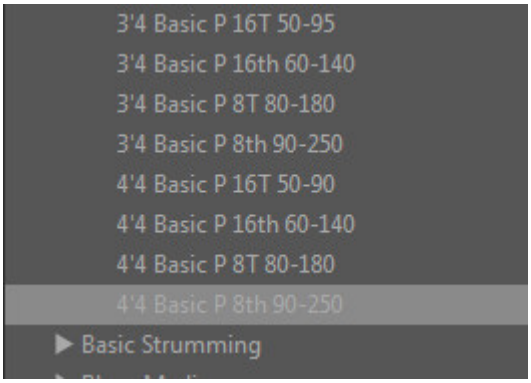
Finding Pattern in MusicLab Pattern Library

Rhythm patterns are organized within Pattern Library tree view by Category folders and Style subfolders including sets of MIDI patterns. The name of each folder/subfolder contains short musical information helping you to quickly find patterns matching your song.

For instance:

Category name *Basic Strumming* includes a number of guitar strumming Styles.

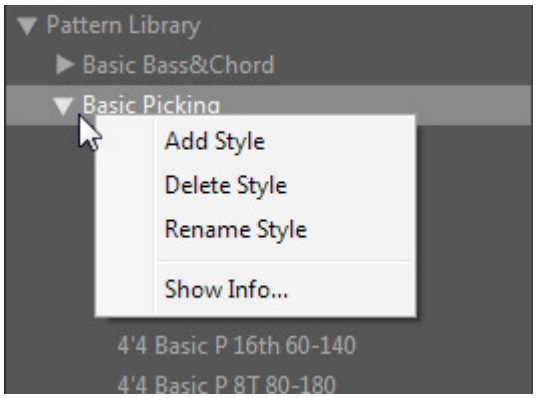
Style name *4'4_Basic_S_8th_90-250* contains Basic style rhythm patterns in 4'4 meter (*4'4_Basic*), featuring strumming technique (*S*), and 8th note rhythm feel (*8th*), usable within the 90-250 bpm tempo range (*90-250*).


3'4 Basic P 16T 50-95
3'4 Basic P 16th 60-140
3'4 Basic P 8T 80-180
3'4 Basic P 8th 90-250
4'4 Basic P 16T 50-90
4'4 Basic P 16th 60-140
4'4 Basic P 8T 80-180
4'4 Basic P 8th 90-250
Basic Strumming

Library Tree view. Style folder

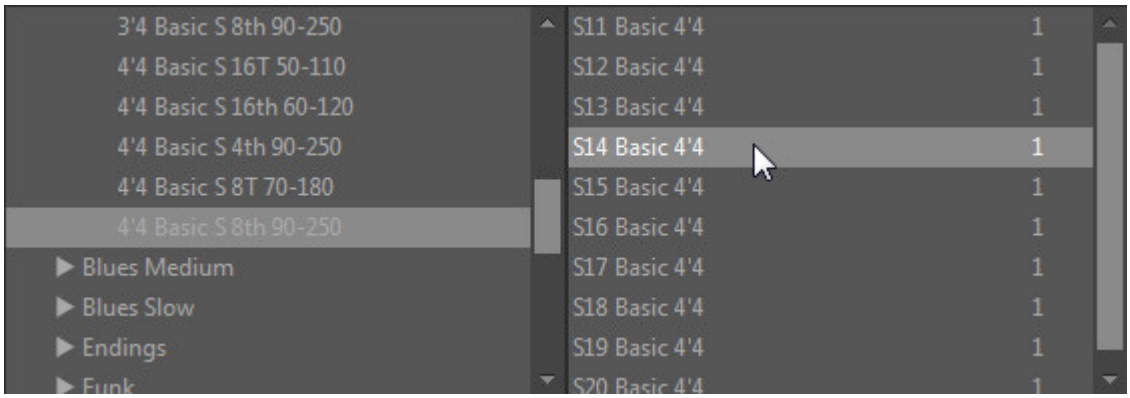
To read the details about ML Pattern library right-click on Pattern Library root folder, and select Show Info item in popup menu.

To read the additional information about Styles included with the Category right-click on Category folder and select Show Info item in popup menu:



Selecting Category and Style

To find the appropriate pattern set in Pattern Library tree view choose Category folder and double-click the folder name to get access to the included Styles. Click the appropriate Style name to load the available pattern set to Pattern List pane.



Pattern List

All patterns of ML Pattern Library have unique names containing brief information as well, so you can easily identify them when using outside the Style folder.

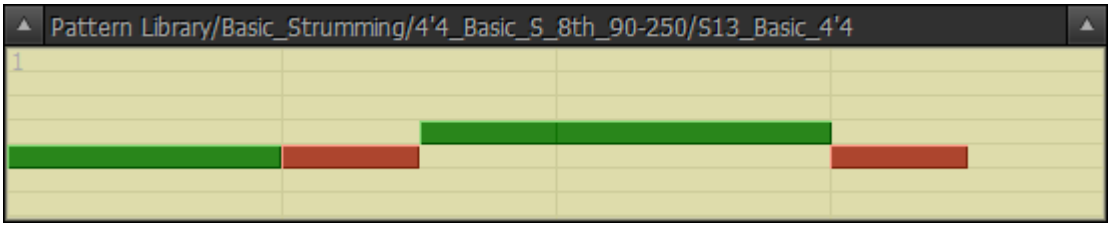
For instance:

Pattern name *S13_Basic_4'4* indicates strumming technique used (*S*), pattern number (*13*), and Style name (*Basic 4'4*).

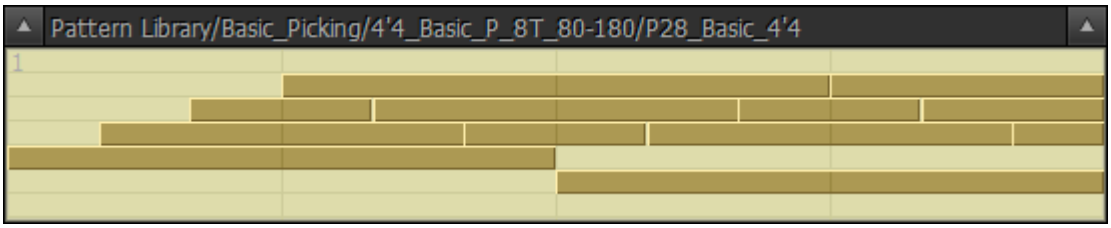
Selecting pattern

Click on pattern name in the list to select it - pattern rhythmic contents will appear in Pattern view and it is ready to play.

Pattern view graphically presents measures/beats as well as guitar 'Strokes' used in the current rhythm pattern. Differently colored 'Piano Roll' type bars and their vertical position allow to easily identify the stroke types: green bars present Full strums, red ones present Muted strums, blue ones present Slow strums, light green bars present Top strums, brown ones present individual 'string' picks (up strums bars of the same stroke type are in higher position than down strums):



Strumming Pattern



Picking Pattern

Auditioning Pattern

Host sequencer in stop mode (or RealGuitar in standalone run)

Press chord on your MIDI keyboard to trigger pattern playback that will be visualized by position cursor moving along the Pattern view. Pattern will perform your chord(s) until you release the keys. Pattern stops when you release the keys and starts from the beginning when you press chord again. Pattern will continue playing if you change chords legato way (if at least one key is constantly pressed).

Press Latch button or MIDI Sustain Pedal to turn pattern playback to 'Latch' mode - in that case pattern will continue playing the last chord even if you release all chord keys.

Host sequencer in playback mode

Start your host sequencer. Now pattern will 'silently' follow host's playback until you press chord on a MIDI keyboard (or alternatively insert chord changes to MIDI track). Releasing chord keys mutes the performance. Pressing chord again will continue pattern playing in synch with your host's tempo/beats.

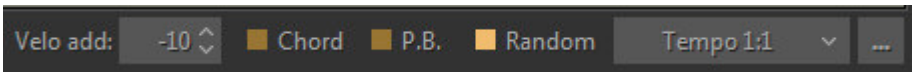
Press Latch button or Sustain Pedal to turn pattern playback to 'Latch' mode - in that case pattern will continue playing the last chord even if you release all chord keys.

Note, that using sequencer in playback mode allows you to easily choose pattern(s) for your song by previously entering chords to a MIDI track and selecting patterns in Pattern Manager 'on the fly' along with the song.

Controlling pattern playback

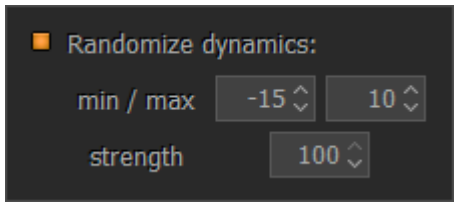
Dynamics control

Pattern Manager has powerful real time velocity control options allowing to drastically change pattern performance:



- **Velo add** - add/reduce velocity
- **Chord**- check to apply velocity of trigger chord to pattern dynamics (+/- velocity)
- **P.B.** - check to assign +/- velocity to Pitch Bender controller for continuous dynamics changes
- **Random** (velocity) - check to switch randomization on

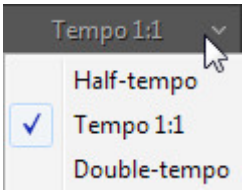
Click Pattern Settings button (the one at the right w/three dots picture) to adjust randomization parameters:



- **min** box - minimum deviation range
- **max** box - maximum deviation range
- **strength** (%) - sensitivity of randomization, at 100% all pattern notes will be randomized

Tempo Control

Pattern Manager takes tempo value from the host sequencer, but you can make it twice lower or higher by simply selecting the appropriate item in Tempo combo box:



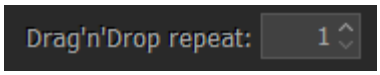
Transferring Pattern to host's MIDI Track

If you want to use more than one rhythm pattern for your song you have to copy the chosen patterns from Pattern Manager to MIDI track of your host sequencer. There are two ways to do that:

Drag'n'Drop Pattern

The simplest way to copy pattern to MIDI track is to drag'n'drop the selected pattern directly from Pattern view. To do this click on Pattern view and drag the pattern to the needed measure of a MIDI track.

You can automatically multiply pattern by the appropriate number of cycles if you previously set the desired number of repetitions in D'n'D Repeat box found on Pattern Settings panel:



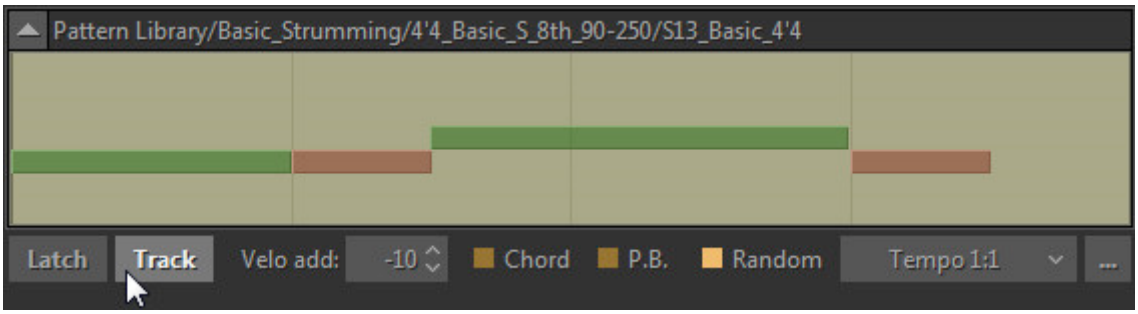
Note. Velo add and Random parameters will be also applied to the exported pattern (MIDI file).

Import Pattern to MIDI Track

If your host doesn't support drag'n'drop MIDI data you can previously drag out pattern from Pattern view directly to Windows – it will be exported as a Standard MIDI file, and then import it to your sequencer. In Mac version: right-click on Pattern view and select 'Export to Desktop' in pop up menu. Alternatively you can import pattern right from RealGuitar installation folder (by default: *C:/Program Files/MusicLab/RealGuitar 4/Loops/Pattern Library*), but in that case you get single original pattern and you have to multiply it manually in a MIDI track of your host.

Using Rhythm Patterns in a MIDI Track

When the appropriate rhythm patterns for your song parts are successfully found in Pattern Manager and copied to the host's MIDI track, press Track button to cancel pattern loaded in Pattern Manager (it will be grayed out) and work with pattern on MIDI track only.



There are two ways of creating guitar part with the help of rhythm patterns playing from MIDI track to RealGuitar: real-time and non real-time methods.

Non real-time method

- Create MIDI track for chords, output it to RealGuitar, and enter chord changes for you guitar part (step record chords from your MIDI keyboard or manually enter notes via sequencer's editor)
- Start your sequencer to listen to the ready part.

Real-time method

- Create MIDI track for chords, output it to RealGuitar
- Start sequencer and play/record chord changes to RealGuitar from your MIDI keyboard

Real-time method is more intuitive and allows to control pattern playback adding various expressive adjustments to the performance.

Controlling pattern playback

You can control pattern playing from MIDI track with the help of chords played on a MIDI keyboard by pressing and releasing keys, using Latch button (or Sustain Pedal), and also by triggering Slow Strum (Velocity Switch FX).

Latch Mode (Sustain Pedal)

With Latch button disabled pattern will play only while you are holding the chord on your MIDI keyboard, and it will be muted when you release the keys. This allows you to play guitar pattern here and there along with the song. With Latch button (or Sustain Pedal) pressed pattern will continue playing even if you release the keys.

Slow Strum

Use Slow Strum velocity switch FX to add syncopes and accents to pattern playback:

- Temporarily mute pattern by triggering Slow Strum (the time window can be adjusted by 'SlowZone' Automation parameter)
- Completely stop pattern by triggering Slow Strum and quickly releasing the keys (to stop Slow Strum sound press the Mute key (Black) of the left Repeat zone). To continue pattern playback press the chord again.

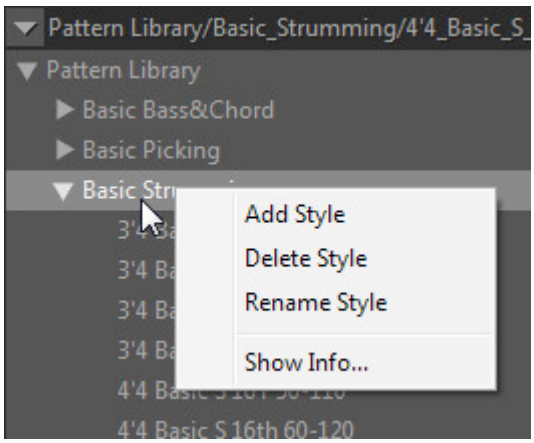
Note, with Latch button (Sustain Pedal) pressed you can't completely stop pattern by triggering Slow Strum and releasing the keys.

Creating Custom Styles for Pattern Library

Organizing Existing Patterns in Custom Styles

You can create your own pattern sets by copying the favorite patterns taken from the ML Pattern Library and organizing them as custom Styles within Library tree view for future use:

- Select pattern you are going to copy to your new Style - it will appear in Pattern view
- Right-click on a Category folder or Style subfolder of the Tree view and select Add Style in pop up menu. Name the newly created empty folder (the Pattern List pane will be empty)



- Press 'Add' button under Pattern List pane to copy the current pattern to your new Style folder

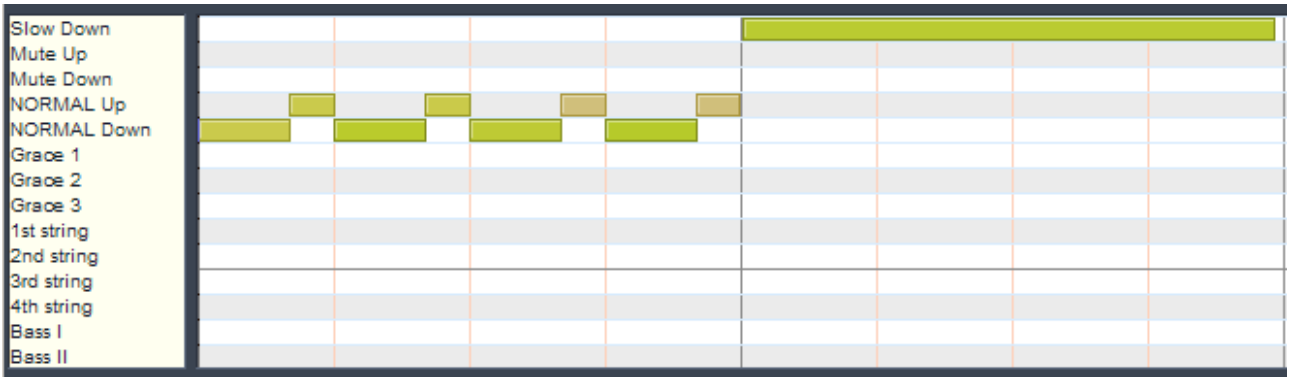
- Find and audition other patterns, and copy them one by one to the new Style using the same method

You can also delete/rename Style folders by right-clicking on it and selecting the appropriate item in popup menu.

Creating Custom Patterns

RealGuitar rhythm patterns are single track Standard MIDI files (SMF format 0) recorded with special Stroke Map notes, so advanced users can edit the existing patterns or create their own patterns from scratch in the host's MIDI track, and then save/export them as SMF directly to Pattern Library folder for future use (*C:\Program Files\MusicLab\RealGuitar\Loops*).

Guitar Stroke Map incorporated in RealGuitar allows to use up to 22 MIDI notes in the lowest octave range (from C#-2 to A#-1) for emulating a number of guitar techniques (Strokes) within a MIDI rhythm pattern. So you can use the Stroke Map notes for creating your own rhythm patterns including various guitar 'Strokes', such as chord strums (up/down), slow strums (up/down), individual string picks, bass note pick, muted strums (up/down), chord slides (using chromatic strums), etc.



Strumming Pattern in MIDI track

RealGuitar Stroke Map

Note #	Note name	Stroke name
22	A#-1	"Slow Upstrum"
21	A -1	"Slow Downstrum"
20	G#-1	"Muted Upstrum"
19	G -1	"Muted Downstrum"
18	F#-1	"Full Upstrum"
17	F -1	"Full Downstrum"
16	E -1	"Full Downstrum 1 semi-tone lower"
15	D#-1	"Full Downstrum 2 semi-tones lower"
14	D -1	"Full Downstrum 3 semi-tones lower"
13	C#-1	"1st string"
12	C -1	"2nd string"
11	B -2	"3rd string"
10	A#-2	"4th string"
09	A -2	"Bass I"
08	G#-2	"Bass II"
07	G -2	"Muted Top Upstrum"
06	F#-2	"Muted Top Downstrum"
05	F -2	"Top Upstrum"
04	E -2	"Top Downstrum"
03	D#-2	"Top Downstrum 1 semi-tone lower"
02	D -2	"Top Downstrum 2 semi-tones lower"
01	C#-2	"Top Downstrum 3 semi-tones lower"

Top strum - strum on the 3-4 higher strings (Bass strings omitted)

Parameter Automation MIDI CC and VST Map

RealGuitar	MIDI CC #	VST name
Output		
Volume	7	Volume
EQ, High	29	EQ-High
EQ, Low	30	EQ-Low
MIDI Out, select		Outmode
Tune		
Pitch, Coarse	12	PtchCrse
Pitch, Fine Tune	13	PtchFine
Modulation, Depth	14	ModDepth
Modulation, Freq	15	ModFreq
Mixer		
Mixer_Muted_sound, Volume	20	MxMuted
Mixer_Slow_Strum, Volume	21	MxSlStrm
Mixer_Switch_FX, Volume	22	MxKeyFx
Mixer_FretNoise, on/off,	23	MxFrtN_
Mixer_FretNoise, Volume	24	MxFrtNse
Mixer_ReleaseNoise, on/off	25	MxRelN_
Mixer_ReleaseNoise, Volume	26	MxRelNse
Mixer_Pick/Noise, on/off	27	MxPckN_
Mixer_Pick/Noise, Volume	28	MxPckNse
Audio FX		
FX_Tremolo, on/off	44	MxTremol
FX_Tremolo_Depth	45	TremDpth
FX_Tremolo_Freq	46	TremFreq
FX_Chorus, on/off	47	MxChorus
FX_Chorus_Level	48	ChLevel
FX_Chorus_Depth	49	ChDepth1
FX_Chorus_Freq	50	ChFreq1
FX_Chorus_Depth2	51	ChDepth2
Common		
Alter_sample, mode	52	AltSmple
Accent_velocity_Threshold	53	VelTrsh
Performance_Mode, select	54	Mode
Pattern mode on/off	16	PattrnOn
Release_Time	55	RlseTime
Strum_Time	56	StrmTime
Pick_Position, select	43	PickPos
Fret_Position, select	78	FretPos
Auto_Fret_Position, on/off	79	AutoFret
Hold, on/off	64	Hold

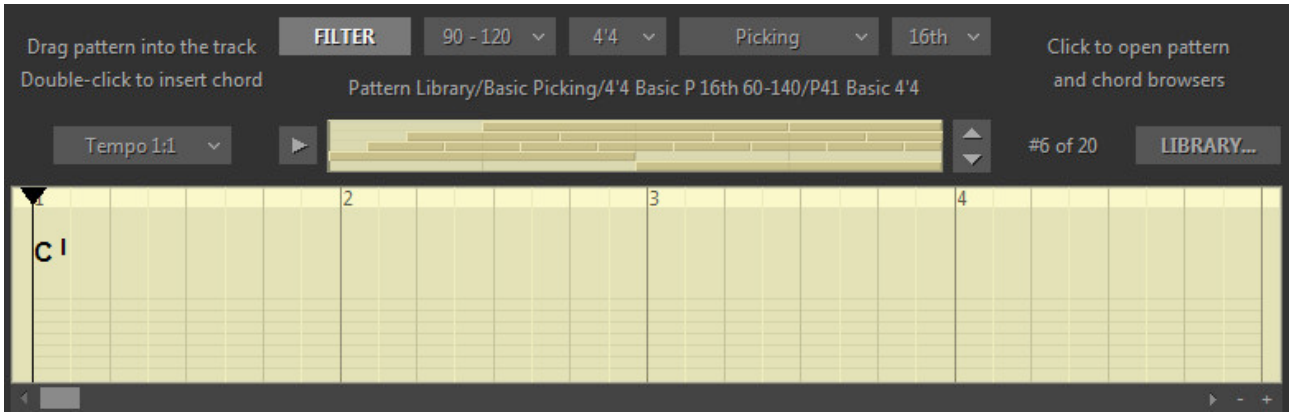
Controllers		
Pitch_BenderUp, Mode	57	PBupMode
Pitch_BenderDown, Mode	48	PBdnMode
PBenderUp_to_Slide, Range	58	PBSldRng
PBenderDown_to_Slide, Range	63	PBdnSlRn
PBender_to_Pitch, Range	59	PBPtcRng
Modulation_Wheel, Mode	60	WhMode
ModWheel_to_Slide, Range	61	WhSldRng
ModWheel_to_Pitch, Range	62	WhPtcRng
Aftertouch, Mode	75	AtchMode
Aftertouch_to_Pitch, Range	76	AtchRng
Velocity_Curve, select	77	VelCurve
Velocity Switch FX (non-Solo)		
Velo_Switch_Slide_mode, select	85	VelSlide
VelSw_SlideUp, Velo	86	SldUpVel
VelSw_SlideUp, Steps	87	SldUpStp
VelSw_SlideUp, Time	88	SldUpTim
VelSw_SlideDown, Velo	89	SldDnVel
VelSw_SlideDown, Steps	90	SldDnStp
VelSw_SlideDown, Time	102	SldDnTim
Slow_Strum_on_high_velo, select	112	SlStrmHi
Slow_Strum_HighVel, Velo	113	SlStrHVe
Slow_Strum_HighVel, Speed	114	SlStrHSp
Slow_Strum_on_low_velo, select	115	SlStrLow
Slow_Strum_LowVel, Velo	116	SlStrLVe
Slow_Strum_LowVel, Speed	117	SlStrLSp
Mode Controls		
Silent Mode, on/off	110	Silent
Chord Position, select	111	ChordPos
Chords/Bass, on/off	80	ChrdBass
Alter_Bass, on/off	118	ChdAltBs
Bass_Mono, on/off	119	ChdMnoBs
Chords_Strings, Upper, select	6	ChdStrU
Chords_Strings, Lower, select	3	ChdStrL
Bass&Chord_mode_Strings#, select	9	BnCStr#
Harmony_Mode_Interval, select	31	HrmIntr1
Solo_FX_HammerOn, select	35	SolFxHO
Solo_FX_HammerOn, Steps	36	HOSteps
Solo_Legato, on/off	18	Legato
Solo_BassZone, on/off	40	BassZone
Solo_BassZone, rangeHigh	41	BasRngUp
Solo_BassZone, rangeLow	44	BasRngDn
Slow Strum time zone (Pattern)	120	Slowzone
Pattern, Track mode on/off	17	TrackMod
Song, pattern velo+	122	

MIDI CC Automation, value -> parameter map

CC#3, ChdStrL	***CC#12, PtchCrse***	***CC#41, BassRang***
0-13 --> 1	0-2 --> -12	0-1 --> E1
13-38 --> 2	3-7 --> -11	2-5 --> F1
39-63 --> 3	8-13 --> -10	6-8 --> F#1
64-88 --> 4	14-18 --> -9	9-12 --> G1
89-114 --> 5	19-23 --> -8	13-15 --> G#1
115-127 --> 6	24-29 --> -7	16-19 --> A1
CC#6, ChdStrU	30-34 --> -6	20-22 --> A#1
0-13 --> 1	35-39 --> -5	23-26 --> B1
13-38 --> 2	40-44 --> -4	27-29 --> C2
39-63 --> 3	45-50 --> -3	30-33 --> C#2
64-88 --> 4	51-55 --> -2	34-37 --> D2
89-114 --> 5	56-60 --> -1	38-40 --> D#2
115-127 --> 6	61-66 --> 0	41-44 --> E2
CC#9, BnCStr#	67-71 --> 1	45-47 --> F2
0-21 --> 2	72-76 --> 2	48-51 --> F#2
22-63 --> 3	77-82 --> 3	52-54 --> G2
64-105 --> 4	83-87 --> 4	55-58 --> G#2
106-127 --> 5	88-92 --> 5	59-61 --> A2
CC#31, HrmIntrl	93-97 --> 6	62-65 --> A#2
0-9 --> 4th down	98-103 --> 7	66-68 --> B2
10-27 --> 5th up	104-108 --> 8	69-72 --> C3
28-45 --> Octave	109-113 --> 9	73-75 --> C#3
46-63 --> Power1	114-119 --> 10	76-79 --> D3
64-81 --> Power2	120-124 --> 11	80-82 --> D#3
82-127 --> 2 Octave	125-127 --> 12	83-86 --> E3
CC#36, HOSteps	***CC#13, PtchFine***	87-89 --> F3
0-5 --> 1	64-127 --> 0-(+100c)	90-93 --> F#3
6-17 --> 2	64 --> 0	94-97 --> G3
18-28 --> 3	0-64 --> 0-(-100c)	98-100 --> G#3
29-40 --> 4	***CC#46, WahMode***	101-104 --> A3
41-51 --> 5	0-22 --> MidiCC	105-107 --> A#
52-63 --> 6	23-63 --> Auto(Pos)	108-111 --> B3
64-75 --> 7	64-86 --> Auto(Neg)	112-114 --> C4
76-86 --> 8	87-127 --> Modulation	115-118 --> C#4
87-98 --> 9	***CC#52, AltSmple***	119-121 --> D4
99-109 --> 10	0-15 --> 1	122-125 --> D#4
110-121 --> 11	16-47 --> 2	126-127 --> E4
122-127 --> 12	48-79 --> 3	
	80-111 --> 4	
	112-127 --> 5	
CC#48, PBdnMode	***CC#58, PBSldRng***	***CC#60, WhMode***
0-10 --> As up	0-5 --> 1	0-15 --> Off
11-31 --> Off	6-17 --> 2	16-47 --> Slide
32-52 --> Slide	18-28 --> 3	48-79 --> Pitch
53-74 --> Pitch	29-40 --> 4	80111 --> Modulation
75-95 --> VeloAdd	41-51 --> 5	112-127 --> MonoBend
96-116 --> MonoBend	52-63 --> 6	***CC#62, WhPtcRng***
117-127 --> Sustainer	64-75 --> 7	0-4 --> 12
CC#50, PickPos	76-86 --> 8	5-13 --> 11
0-4 --> -7	87-98 --> 9	14-22 --> 10
5-13 --> -6	99-109 --> 10	23-31 --> 9

14-22 --> -5	110-121 --> 11	32-40 --> 8
23-31 --> -4	122-127 --> 12	41-49 --> 7
32-40 --> -3	***CC#59, PBPtcRng***	50-58 --> 6
41-49 --> -2	0-4 --> 12	59-68 --> 5
50-58 --> -1	5-13 --> 11	69-77 --> 4
59-68 --> 0	14-22 --> 10	78-86 --> 3
69-77 --> 1	23-31 --> 9	87-95 --> 2
78-86 --> 2	32-40 --> 8	96-104 --> 1
87-95 --> 3	41-49 --> 7	105-113 --> 1/2
96-104 --> 4	50-58 --> 6	114-122 --> 1/4
105-113 --> 5	59-68 --> 5	123-127 --> 1/8
114-122 --> 6	69-77 --> 4	***CC#75, AtchMode***
123-127 --> 7	78-86 --> 3	0-15 --> Off
CC#54, Mode	87-95 --> 2	16-47 --> Pitch
0-9 --> Solo	96-104 --> 1	48-79 --> Modulation
10-26 --> Harmony	105-113 --> 1/2	80-111 --> Sustainer
27-49 --> Chords	114-122 --> 1/4	112-127 --> Feedbacker
50-70 --> BassChord	123-127 --> 1/8	***CC#76, AtchRng***
71-89 --> BassPick	***CC#61, WhSldRng***	0-15 --> 2
90-127 --> Direct	0-5 --> 1	16-47 --> 1
CC#57, PBupMode	6-17 --> 2	48-79 --> 1/2
0-12 --> Off	18-28 --> 3	80-11 --> 1/4
13-38 --> Slide	29-40 --> 4	112-127 --> 1/8
39-63 --> Pitch	41-51 --> 5	***CC#77, VelCurve***
64-88 --> VeloAdd	52-63 --> 6	0-21 --> 1
89-114 --> MonoBend	64-75 --> 7	22-63 --> 2
115-127 --> Sustainer	76-86 --> 8	64-105 --> 3
	87-98 --> 9	106-127 --> 4
	99-109 --> 10	
	110-121 --> 11	
	122-127 --> 12	
CC#78, FretPos	***CC#85, VelSlide***	***CC#90, SldDnStp***
0-3 --> 0	0-31 --> off	0-5 --> 1
4-10 --> 1	32-95 --> up	6-17 --> 2
11-17 --> 2	96-127 --> down	18-28 --> 3
18-24 --> 3	***CC#87, SldUpStp***	29-40 --> 4
25-31 --> 4	0-5 --> 1	41-51 --> 5
32-38 --> 5	6-17 --> 2	52-63 --> 6
39-45 --> 6	18-28 --> 3	64-75 --> 7
46-52 --> 7	29-40 --> 4	76-86 --> 8
53-59 --> 8	41-51 --> 5	87-98 --> 9
60-67 --> 9	52-63 --> 6	99-109 --> 10
68-74 --> 10	64-75 --> 7	110-121 --> 11
75-81 --> 11	76-86 --> 8	122-127 --> 12
82-88 --> 12	87-98 --> 9	***CC#111, ChordPos***
89-95 --> 13	99-109 --> 10	0-15 --> I
96-102 --> 14	110-121 --> 11	16-47 --> II
103-109 --> 15	122-127 --> 12	48-79 --> III
110-116 --> 16		80-111 --> IV
117-123 --> 17		112-127 --> Kbrd
124-127 --> 18		

Song Global Mode



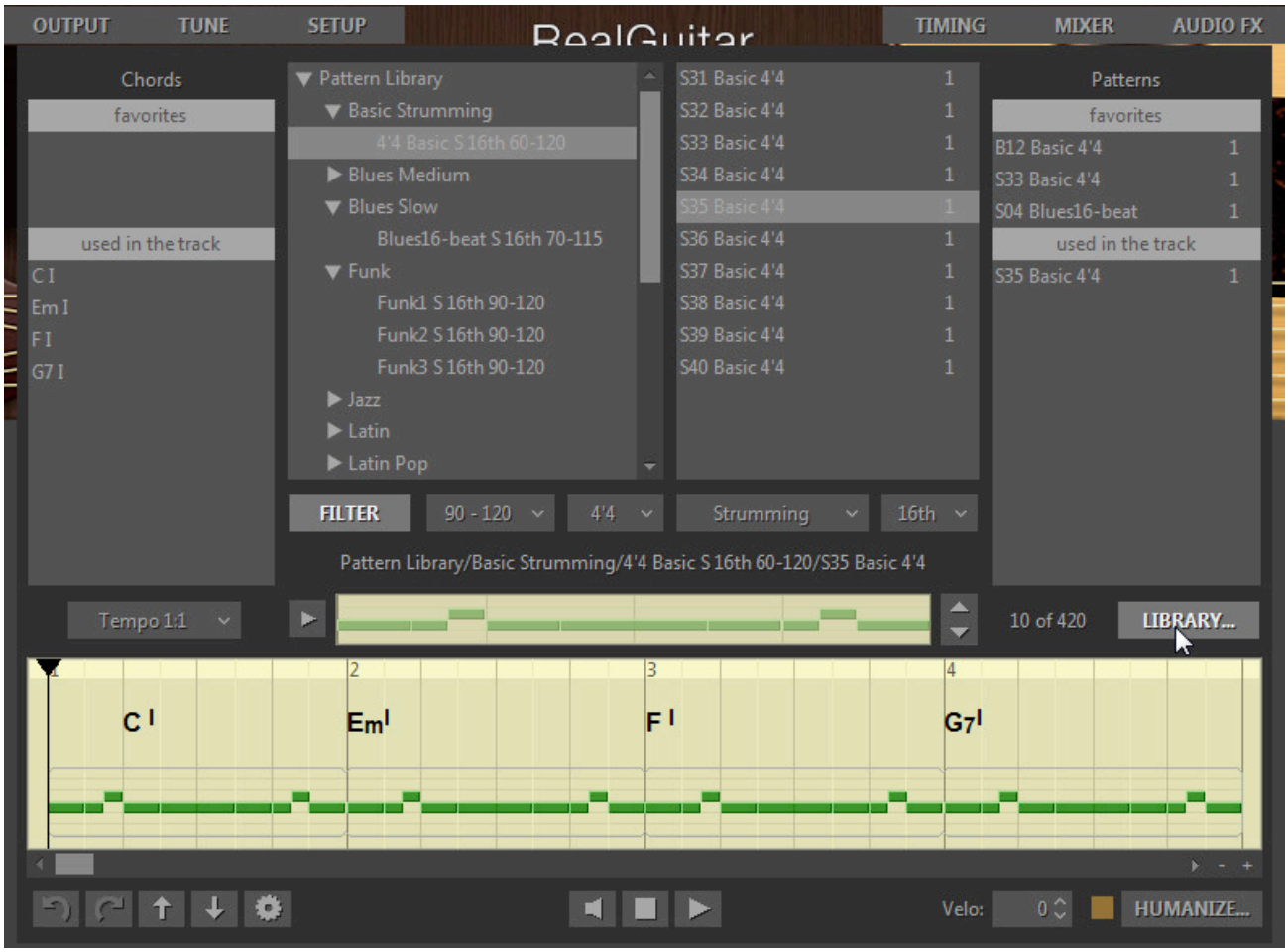
Song mode window

Song mode turns RealGuitar 4 into a powerful and easy-to-use songwriting tool allowing you in no time create perfect guitar backing tracks for your songs. Insert chord symbols in the needed measures of the built-in Song Track, browse and drag and drop patterns into it - and your guitar part is ready!

In the lower part of Song mode window you see Song track section where you can insert chords and patterns for your guitar part.

Working with Patterns

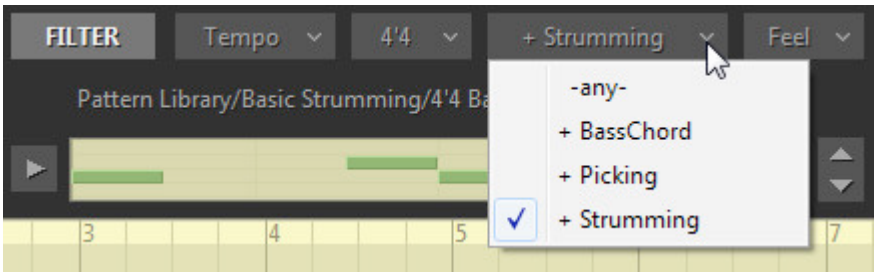
Pattern Library Browser



Click the 'Library' button to open Pattern Library browser.

Style Filter

Pattern Library includes 1250 guitar rhythm patterns organized in various musical categories and styles (folders and subfolders). To let you easily find the suitable patterns for your song we have developed the powerful Style Filter allowing to automatically select pattern sets by musical criteria: tempo range, meter, playing technique, and rhythm feel.



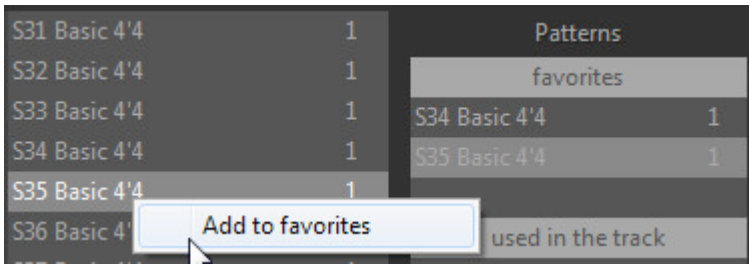
Simply press Filter button to switch it on, select the needed item in popup menu of the appropriate Filter combo boxes, and the Filter will hide folders and patterns not matching the required criteria.

Selecting the folder or subfolder of the Pattern Library tree view will load the available set of patterns into Pattern list pane at the right.

Select pattern name in the list to load pattern to Pattern view strip and press Play button at the left of Pattern view to audition the selected pattern. Navigate through the pattern list by clicking arrow buttons at the right of Pattern view or alternatively use Up/Down Arrow keys of the computer keyboard.

To the left of Pattern view is the Tempo combo box allowing you to make pattern tempo twice lower or higher by simply selecting the appropriate item in popup menu. Note, that pattern inserted into the Song Track will play in the current tempo selection.

In case you find pattern that you want to keep for future use, drag it from the Pattern list to the 'Favorites' section, or alternatively right click the pattern and select 'Add to favorites' in popup menu.

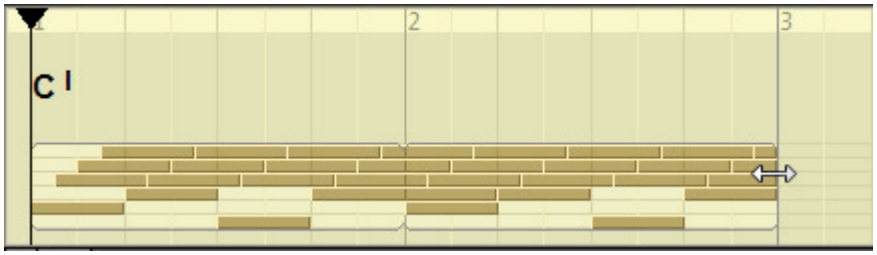


Once you found the needed pattern simply drag and drop it into the Pattern track located in the lower part of the Song track. You can drag patterns from Pattern view, Pattern list, 'Favorites', and 'Used in the track' sections.

Pattern Track

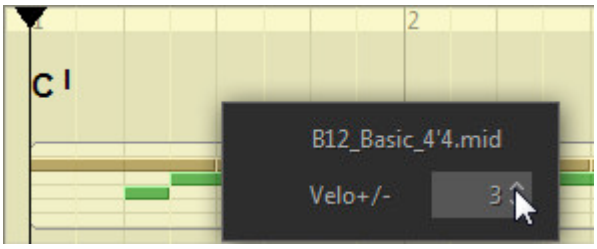
Pattern inserted into the Song track will automatically appear in 'Used in the track' section, which allows you to easily use it in other places of the song by dragging it directly from 'Used in the track' section.

You can shorten or multiply pattern in the Song track by simply dragging its right boundary.



Right-click the song pattern to open a context menu allowing you to copy/paste/delete pattern(s), or split and chop the multiplied pattern, as well as get access to Pattern Properties panel.

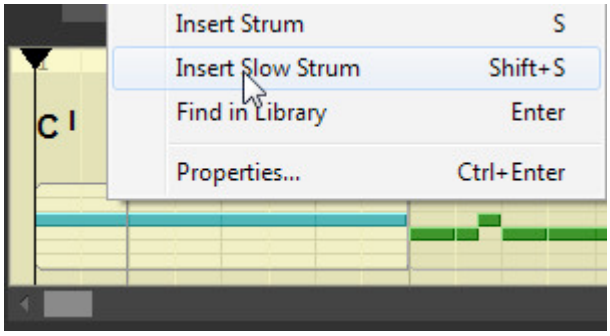
Properties panel displays the pattern name and allows modifying the dynamics of the pattern by adding/reducing the output velocity of pattern notes.



Double-clicking song pattern will reveal it in Pattern Library, alternatively you may right-click the pattern and select 'Find in Library' item in popup menu.

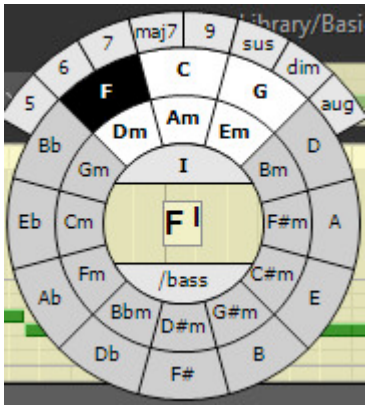
Inserting Single Strum

It is possible to insert a single strum directly into the Pattern track rather than finding it in the Library. Right-click the Pattern track in the needed place and select Insert Strum or Insert Slow Strum in popup menu.



Working with Chords

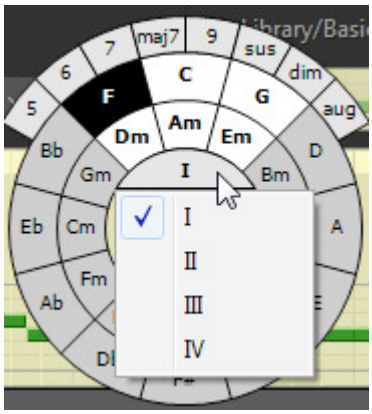
Chord Selector



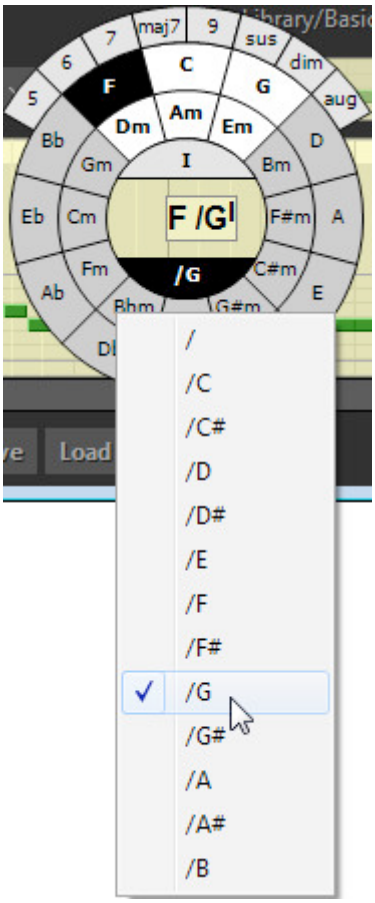
Double-click the chord track to open the Chord Selector based on the Circle of Fifths (alternatively right-click and select 'Insert chord' in popup menu, or press Enter on computer keyboard). Chord Circle provides all major and minor chords and displays a Key Center including six relative chords at the top. To change the Key Center simply right-click the appropriate major or minor chord name in the circle.

Click chord name button to select minor or major chord. Buttons on the upper panel allow selecting other chord types and/or extensions.

You can change Chord Position (inversion) of the chord by clicking the upper segment of inner circle and selecting the needed position number in popup list.



If you want to create slash bass chord you can add alternative bass note to the chord by clicking the lower segment of the inner circle and selecting the needed note in popup list.

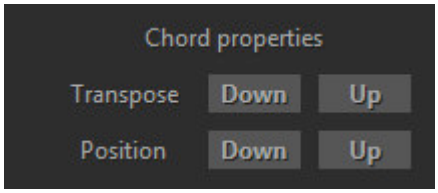


To insert the selected chord into the chord track press Enter key on computer keyboard, or alternatively click the center part of Chord Selector. To cancel inserting press Esc key.

Editing Chords

Select the chord and press Enter, or simply double-click it, or alternatively right-click the chord and select Edit… in popup menu to bring up the Chord Selector. When the edits are done press Enter to confirm the changes. To cancel edits press Esc key.

Right-clicking the chord will bring up a menu for copying and pasting of chord(s), deleting selected chord(s), bringing up Chord Selector to edit a chord, as well as getting access to Chord Properties panel.



Clicking on Up/Down buttons will transpose chord(s) by semitones (alternatively use +/- computer keys), as well as change chord position (alternatively use Ctrl + '+/-' computer keys).

You can also change '#' (sharp) to 'b' (flat) and vice versa in the chord name by right-clicking the chord and selecting 'Enharmonic shift' item in popup menu, or alternatively press '*' computer key.

'Favorites' Section

This section allows you to reserve the chord set you are going to further use in a song and then simply drag them to the needed measures of the Chord track.

There are three ways to put chords into the 'Favorites' section:

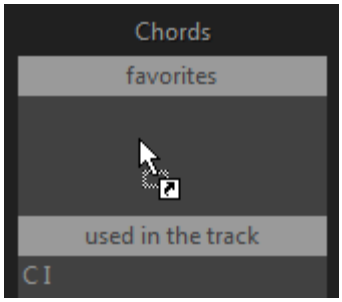
1. Import the chord set from the WEB page by simply dragging the selected text directly to 'Favorites' section
2. Import the chord set from any standard chords/lyrics Text Document file containing chord names.
3. Insert chords one-by-one using Chord Selector (double-click to open Chord Selector, or alternatively right-click and select 'Add chord' in popup menu)

Importing chords from the WEB page

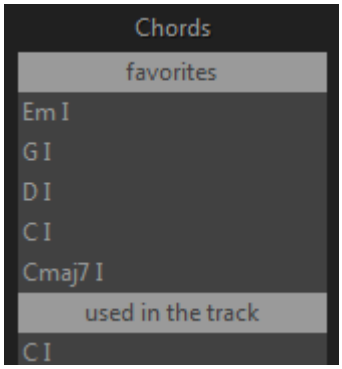
Find chords/lyrics content of the needed song on any site, such as Ultimate Guitar http://www.ultimate-guitar.com, Chordie http://www.chordie.com, Heartwood Guitar Instruction http://www.heartwoodguitar.com, Guitar Chords and Lyrics http://www.guitarsongs.info to name a few.

Select the text with a mouse,

drag and drop it directly into 'Favorites' section,

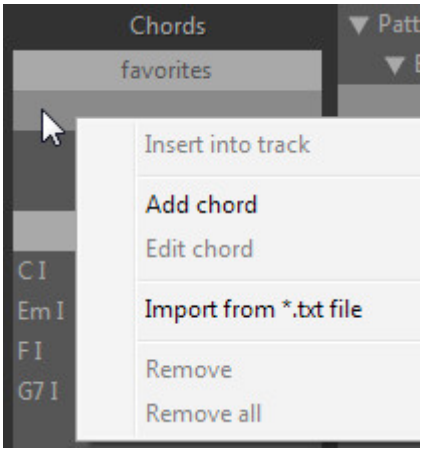


and instantly get ready to use chord set for your song!



Importing the chord set from a Text Document

You may simply drag **.txt* file directly into 'Favorites' section, or alternatively right-click the section and select 'Import from *.txt file' item in popup menu, and then browse the needed file in the opened dialog.

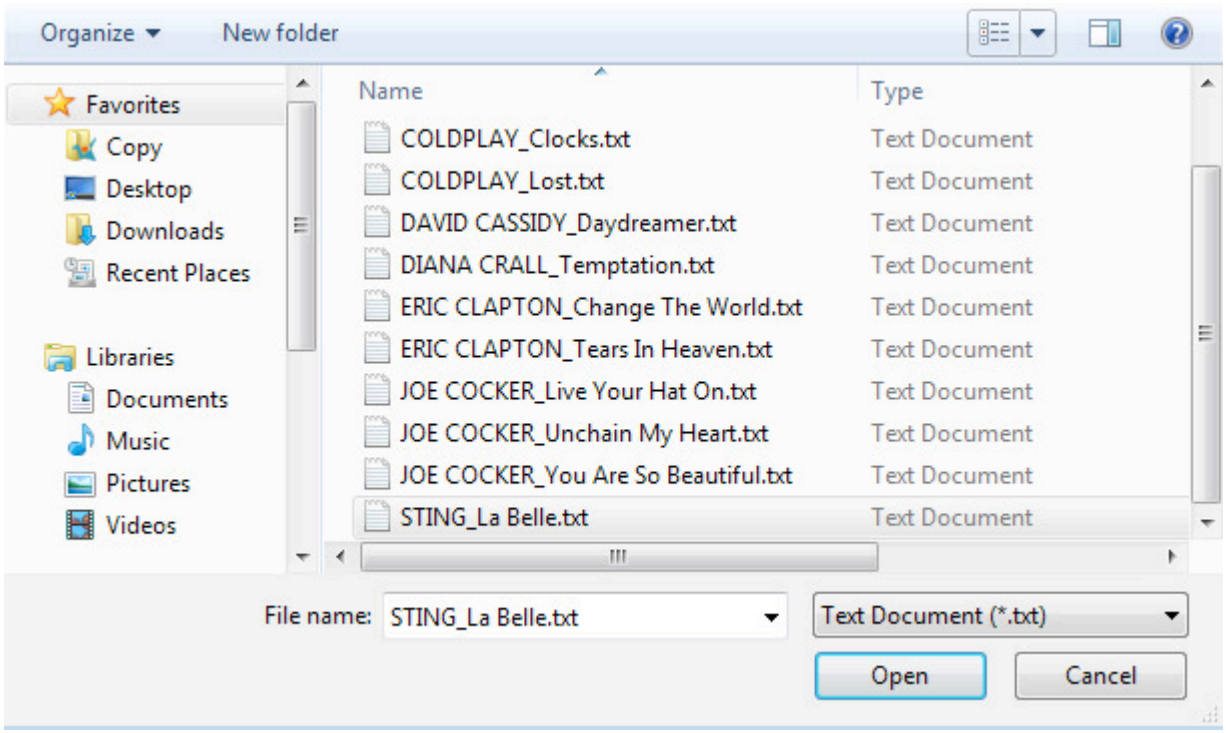


Example:

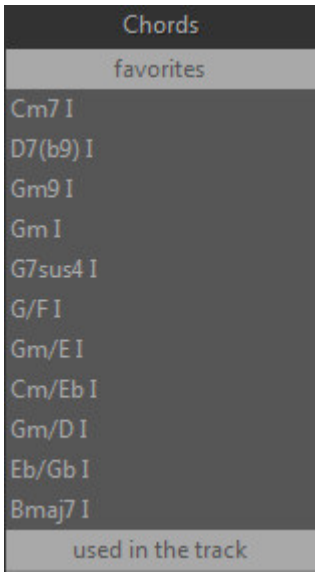
```
      La Belle Dame Sans Regrets

      Cm7     D7b9    Gm9     Gm
1. Dansons tu dis  et moi, je suis
   Ebmaj7       D7b9        G7sus    G/F
   Mes pas sont gauches mes pieds tu fauches
      Gm/E       Cm/Eb   Gm/D                Gm
   Je crains les sots je cherche en vain les mots
        Gm/E   Eb/Gb   Bmaj7 G7sus
   Pour m'expliquer ta vie   alors...
```

Import the Sting song lyrics/chords file.



Or simply drag and drop the file into the 'Favorites section and instantly get ready to use chord set:

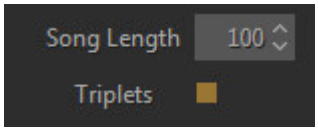


Once you insert chord into the Song track it will appear in 'Used in the track' section on the left side of Library window, which allows you to easily use it in other places of the song by dragging it directly from 'Used in the track' section.

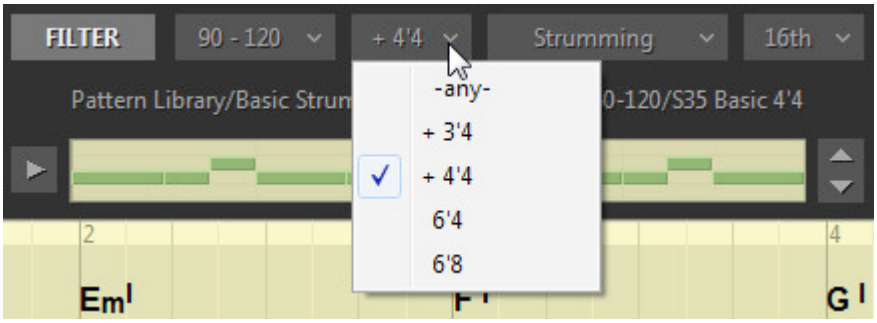
Time Line

Time line area allows you to navigate along the song with a mouse click or Left/Right Arrow keys, as well as start/stop playback with a double-click.

Right clicking on the time line will open settings panel, where you can set the number of measures you need for the song in Song Length numeric box, as well as set triplet beat division (grid) if needed for the track by activating Triplets LED.



To change time signature display from the default 4/4 to any other available in the Library, click the Meter combo box of Filter section and select the needed item in the popup menu.



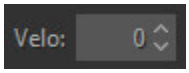
Controls

Below the Song track are various Edit, Transport, and Performance controls.

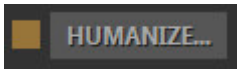
Play/Pause - click to start/pause playback (alternatively press Space bar, or double-click Time line).

Stop - click to stop playback and return to start position, second click will return to zero position.

Activate to **audition chord changes** on playback.



Add/Reduce output velocity (can be automated by MIDI CC#122).



Switch on/off the Humanize engine. Open Humanize settings window.

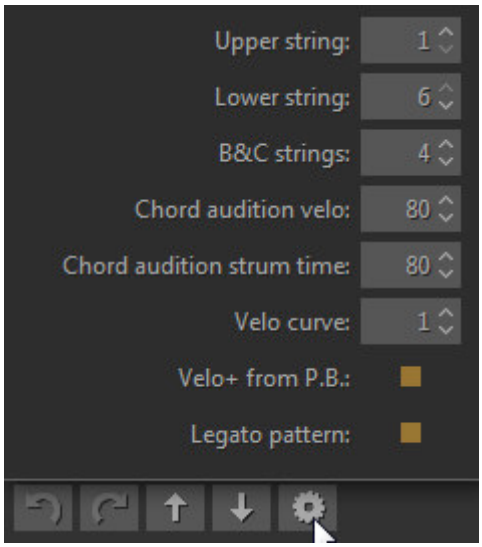
Undo/Redo edits done in the Song Track.

Load/Save the Song track (*.rgtrack file).

Open Settings panel.

Settings Panel

Clicking the Settings button will bring up the Settings panel.



Upper string - disables upper strings for strumming patterns.

Lower string - disables lower strings for strumming patterns.

B&C strings# - specifies the number of sounding strings for Bass&Chord patterns.

Chord audition velo - specifies velocity value for chord audition.

Chord audition strum time - specifies strum time for chord audition.

Velo curve - select the output velocity curve.

Velo+ from P.B. - assign +/- velocity control to Pitch Bender controller.

Legato - click to allow the last note of shortened pattern continue sustaining its full length in the close next pattern.

Keyboard Shortcuts

Song Track

Command	Shortcut	Mouse
Play/Pause	Spacebar	Double-click on Time line
Stop	Ctrl + Spacebar	
Navigate Track vertically	Up/Down arrows	
Navigate Track horiz. by beats	Left/Right arrows	
Navigate Track horiz. by grid	Ctrl + Left/Right arrows	
Navigate between chords	Left/Right arrows	
Navigate Chord track, beats	Tab, Shift+Tab	
Navigate Chord track, grid	Ctrl +Tab, Shift + Ctrl +Tab	
Select all chords and patterns	Ctrl +A	
Insert Strum	S	
Insert Slow Strum	Shift +S	
Find pattern in Library	Enter	Double-click Pattern
Open Pattern Properties	Ctrl + Enter	Right-click Pattern
Copy Pattern(s)	Ctrl +C/Ctrl+V	Ctrl+Drag
Move/Resize Pattern without grid		Alt+Drag
Add/reduce Pattern velocity	+/-	
Zoom in/out horizontally		Mouse Wheel
Open Track Properties	Ctrl + Enter	Right-click on Time line
Open Chord Properties	Ctrl + Enter	Right-click the Chord
Open Chord Selector	Enter	Double-click the Chord
Move Chord(s) without grid		Alt +Drag
Copy Chord(s)	Ctrl +C/Ctrl+V	Ctrl +Drag

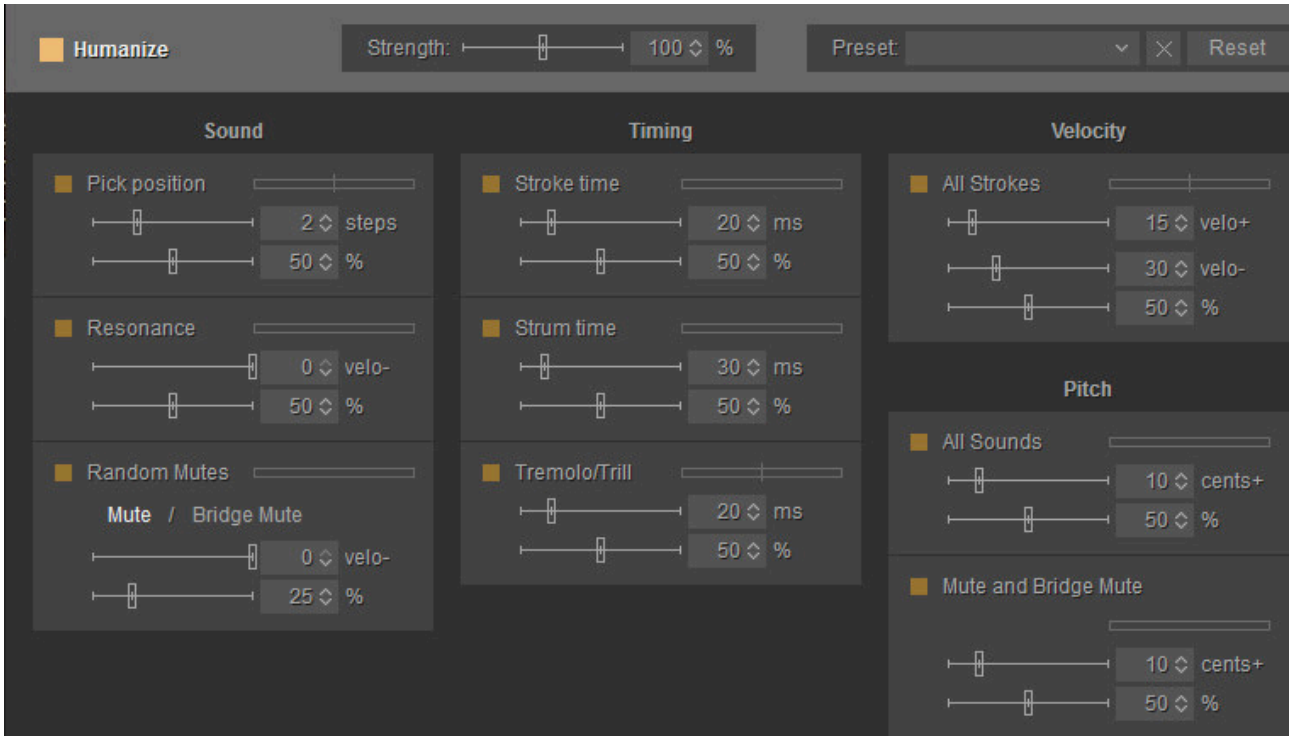
Chord Selector

Command	Shortcut	Mouse
Select major chord	C/D/E/F/G/A/B	
Select minor chord	M+C/D/E/F/G/A/B	
Select '#' chord	Shift +C/D/F/G/A	
Select 'b' chord	Ctrl +D/E/G/A/B	
Navigate through the circle	Arrow keys	
Insert chord	Enter	Click outside the circle
Cancel chord edits	Esc	
Transpose chord	+/-	
Change chord position	Ctrl+Plus (+)/Minus (-)	
Enharmonic shift (# /b)	*	
Change Key Center		Right-click Chord name

Note, Mac users should use CMD key instead of CTRL key

Humanize

You can easily add more realism to the performance (both live played or step-recorded, or automatic) using RealGuitar advanced Humanize option.



Humanize panel

Click the Humanize button in the lower right corner of RealGuitar window to open the Humanize panel. Activate the option by clicking on LED in the upper left corner (the LED is duplicated at the left of Humanize button, so you can switch it on/off even when Humanize panel is closed).

Humanize Panel has 9 parameters grouped under functional headings: Sound, Timing, Velocity, and Pitch. Each parameter has individual switch LED and two sliders. The upper slider controls the maximum range of parameter being applied (steps, milliseconds, velocity, cents), while the lower one controls the sensitivity of randomization in percentage (at 100% all playing notes will be affected).

Sound

Pick Position - randomly changes Pick Position parameter value.

- Set maximum range with the 'steps' slider.

Resonance - randomly triggers open string adjacent to the current played (works for 5 upper strings). This simulates the effect of a guitarist accidentally striking or resonating strings.

- Reduce the volume of resonance sound with 'velo-' slider.

Random Mutes - randomly changes Sustain sound to Mute or Bridge Mute. This simulates the effect of a guitarist accidentally not pressing the string hard enough.

- Click on Mute or Bridge Mute name to select the sound.
- Reduce the volume of mute sound with 'velo-' slider.

Timing

Stroke Time - randomly delays the note-on time of all playing notes.

- Set maximum value with 'ms' slider (0-100 msec. range)

Strum Time - changes the time window between simultaneously played notes (interval, chord).

- Set maximum value with 'ms' slider (0-200 msec. range)

Tremolo/Trill - randomizes automatic tremolo or trill notes timing.

- Set maximum value with 'ms' slider (0-100 msec. range)

Velocity

All Strokes - changes velocity values of all playing strokes.

Pitch

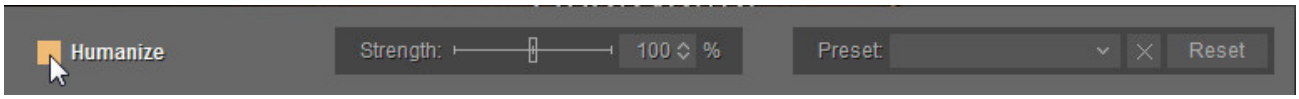
All Sounds - sharpens the pitch of all sounds.

- Set maximum value with 'cents' slider (0-50 cents range)

Mute and Bridge Mute - sharpens the pitch of Mute, Bridge Mute sounds.

- Set maximum value with 'cents' slider (0-50 cents range)

Master section



Big LED - switch on or off the Humanize option.

Strength (**Master**) - add/reduce sensitivity for all parameters proportionally.

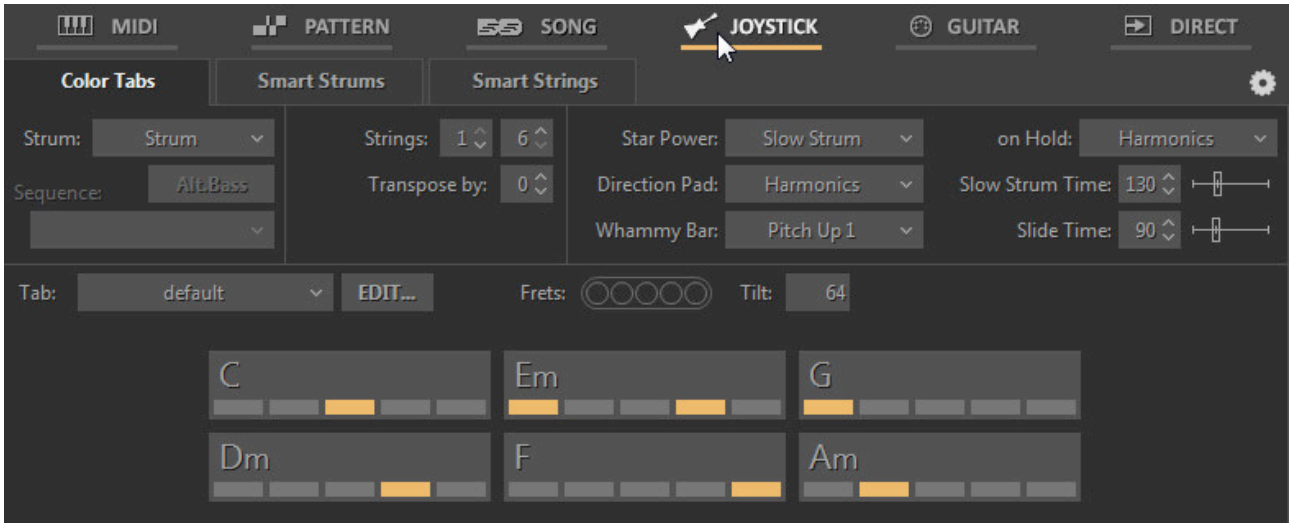
Preset - save all settings made in Humanize window as user presets for future use.

To create a preset, click on Preset combo box to activate Edit mode, type in the preset name, and press Enter on computer keyboard. Preset will be saved within RealGuitar and added to preset list.

To delete preset simply click on Delete icon at the right.

Reset - click to reset all settings to factory default values.

Joystick Global Mode



Joystick Global mode window

Overview

The most popular guitar accompaniment technique is chord strumming.

All virtual instruments, including the guitar ones, are intended to use with keyboard controllers. Unfortunately physical aspects of piano playing technique do not allow to naturally emulate right hand up/down movements of guitarist, which makes it extremely difficult to perform authentic guitar strumming rhythms on a keyboard. On the other part even the entry-level guitarist can easily master basic strumming on his guitar, though facing another difficulty - time-consuming course of learning myriad of chord fingerings, as well as painful physical training to properly press strings with the left hand fingers.

Fortunately with our unique Struminator technology implemented in RealGuitar/Strat/LPC 3.0 Joystick mode, allowing using alternative guitar-shaped MIDI controller for chord strumming, the problem's gone. It successfully combines the convenience of RealGuitar chording system with the ease of normal guitar right hand strumming technique.

Joystick mode utilizes two-hand playing principle very close to guitar playing technique:

- Switching chords/strings with left hand (pressing and holding down Fret buttons)
- Strumming chords/strings with the right hand (pressing Strum bar down/up)
- Articulating chords/strings (releasing Frets to cut off a chord/note as it is playing)
- Playing Muted chords/notes (pressing Strum bar with all Frets released)

Which guitar controller?

PlayStation 3 Guitar Hero World Tour/Guitar Hero 5 guitar controller is the best fully functional device to use both on Mac and PC (used on our Demo videos).

Note, no game console needed, only USB wireless receiver.

Other PS3 Guitar Hero guitar models will work as well, but they differ in Star Power (BACK) button appearance, and doesn't have Slider bar. Star Power (BACK) button is multi-functional in Joystick mode layout, so its shape, location, and pressing force is important for the playability of the controller.

All in all any Guitar Hero controller model allows to perform basic techniques with Fret buttons and Strum Bar, though limited in functionality.

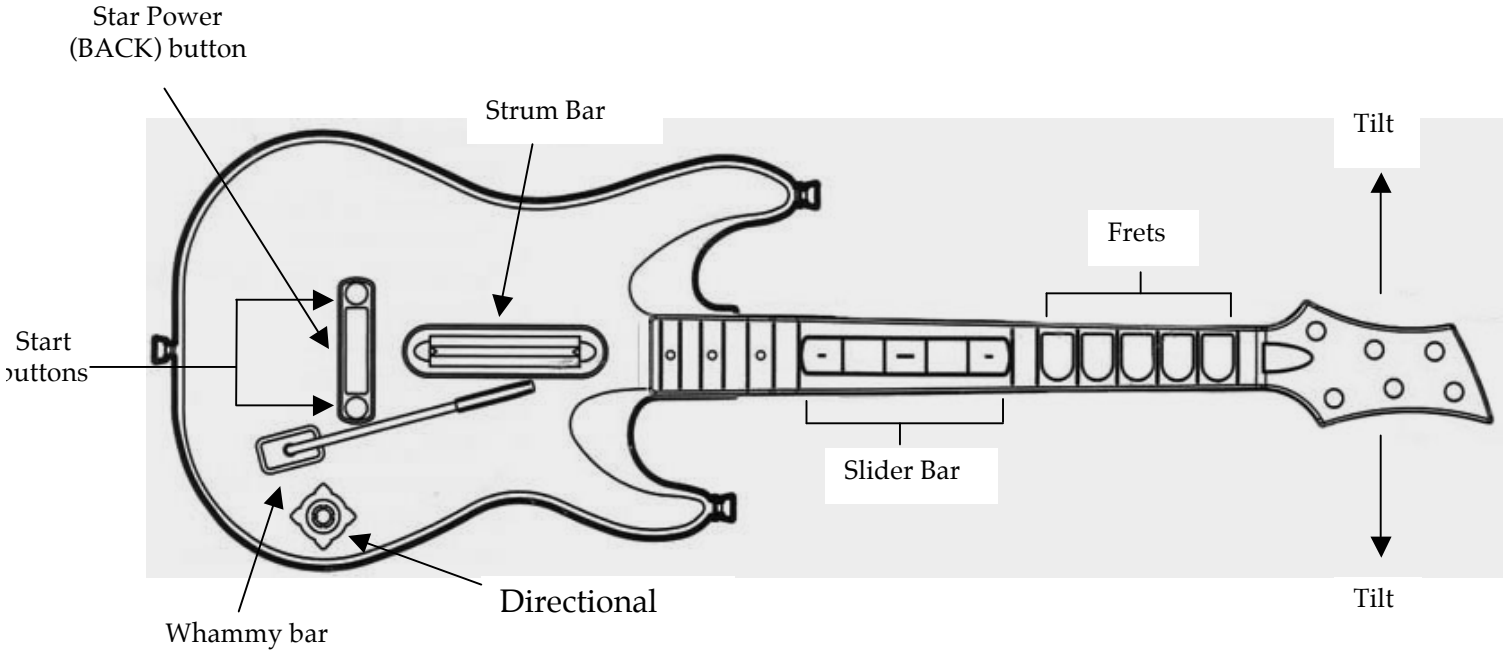
Connecting Guitar Hero controller to RealGuitar

After installing RealGuitar 3:

- Plug the USB wireless receiver/dongle of the guitar controller into USB and connect it with the controller
- Run your DAW and check if 'Game controller' input appears among its MIDI IN devices
- Run RealGuitar 3 instrument in the DAW
- Create MIDI track and output it to RealGuitar 3
- Select Omni MIDI input for this track to get MIDI both from guitar controller and your MIDI keyboard. In case your DAW doesn't support MIDI Omni input you have to create two MIDI tracks outputted to the same RealGuitar instance, one for game controller input and second for MIDI keyboard input
- In RealGuitar 3 window press Joystick button to switch on the Joystick mode

To check the correct connection: pressing Fret buttons on the guitar controller should light up the appropriate virtual Fret buttons, as well as lifting/lowering the controller fretboard should change value displayed in the Tilt box:

Guitar controller Layout



Basic Techniques

Frets (Fret buttons)

- Press/release to switch/articulate chords (ColorTabs, SmartStrums modes), strings (SmartStrings mode)
- Tap to trigger switchable Harmonics FX
- Control chord position/string layers, or dynamics (SmartStrums mode)

Strum bar

- Press down/up to trigger strums/mutes/string picks
- Hold to switch on Harmonics FX for Fret taps
- Hold to switch on Hammer-On/Pull-Off for legato Fret taps (SmartStrings mode)

Tilt sensors (lifting/lowering the fretboard)

- Control dynamics (add/reduce output velocity of all Strokes/FXs)
- Switch on the assignable 'Star Power on Tilt' FXs (SmartStrings mode)
- Switch on 'Modulation on Hold' FX (SmartStrings mode)

Advanced Techniques

Whammy bar

- Press to produce pitch bending, or
- Press to switch on the assignable Strokes/FXs

Star Power (BACK) button

- Press to trigger assignable Strokes/FXs
- Produce Accent (add velocity) for any assigned Stroke/FX
- Hold to switch on Harmonics FX for Fret taps/Strum bar assignable Strokes
- Press w/o Frets to trigger Mutes or Smacks

Slider bar (sensor pads)

- Touch/slide to trigger individual strings

Directional pad

- Press to the right or left to switch on Harmonics FX for Fret taps, or to navigate through String Sequences list (ColorTabs, SmartStrums modes)

START buttons (remote control)

While holding down Frets press START button for:

a) selecting Chord Position

(1+2) + Start => Position I

(2+3) + Start => Position II

(3+4) + Start => Position III

(4+5) + Start => Position IV

b) selecting Strum bar Function (ColorTabs, SmartStrum modes)

1 + Start => Strum

2 + Start => Bass&Strum

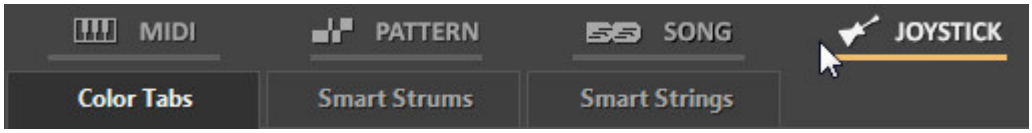
3 + Start => Picking 1

4 + Start => Picking 2

5 + Start => Picking 3

Joystick Performance Modes

Press Joystick button to switch on the Joystick Global mode:

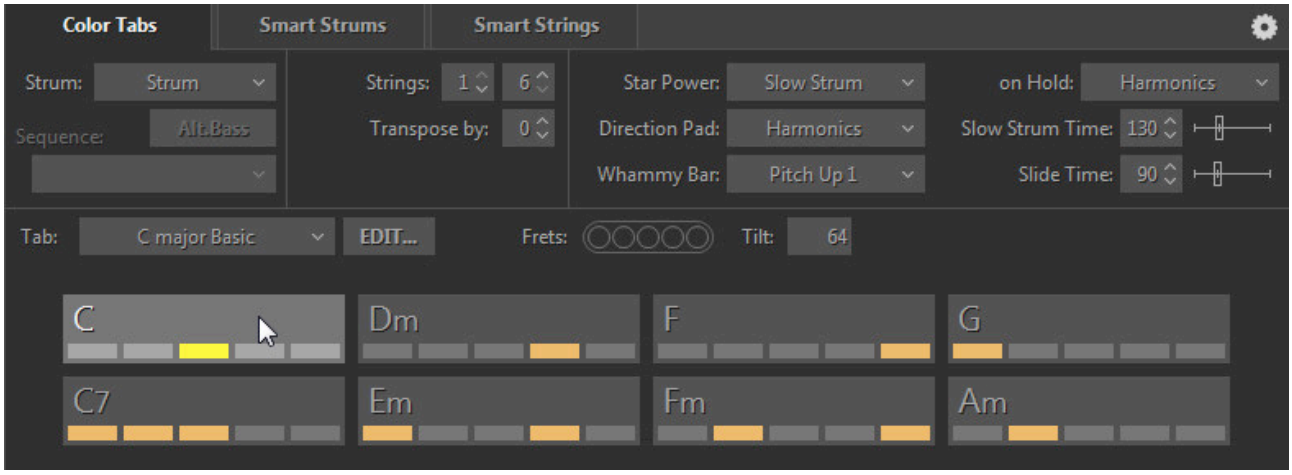


Joystick mode includes three basic Playing Modes: ColorTabs, SmartStrums, and SmartStrings utilizing different methods of switching chords (manual or automatic) and playing rhythm with the Strum bar.

ColorTabs mode (manual chord changes)

Chord Tab

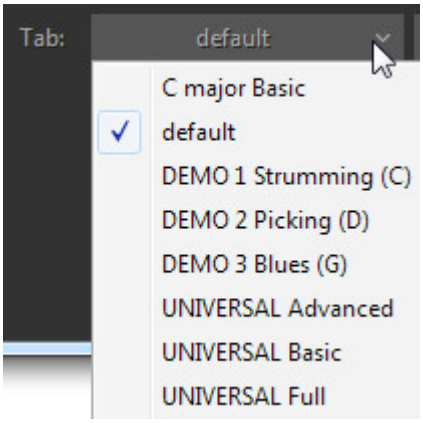
Press ColorTabs tab to switch on the ColorTabs mode



ColorTabs mode window

In the lower part of ColorTabs window you see a set of chord cells presenting various Fret schemes with a chord name on each cell. In fact the cells are chord fingerings allowing to switch chords by pressing various Fret button combinations. Each set is saved as individual Chord Tab within the internal Chord Tab Library.

Load Chord Tab from the Tabs list (the default Tab is loaded on switching on the ColorTabs mode):



ColorTabs Mode Playing Techniques

Frets Function. Switching Chords

In this mode Fret buttons are used to switch and articulate chords.

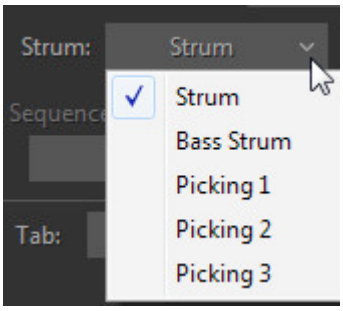
To switch a chord press Fret buttons combination on guitar controller corresponding to the needed chord cell, and then press Strum bar to play the chord. Release Frets to mute the sound.

Follow fret schemes displayed on chord cells to switch between chords available in the current Chord Tab.

Strum Bar Function. Playing Rhythm

Pressing Strum bar down/up lets you perform chord switched with Fret buttons using various guitar techniques: Strum, Bass&Strum, and Picking.

Select the playing technique in Strum bar Function menu:



Strum bar Playing Techniques

Strum

Pressing Strum bar Down/Up triggers DownStrum/UpStrum of the chord switched by Frets.

Pressing Strum bar Down/Up with all Frets released triggers Muted Strums Down/Up of the last played chord.

Bass&Strum

Strum bar Down triggers Bass I once on chord change and/or after you release all Fret buttons, and will continue triggering DownStrums of the same chord until you change the chord or release Fret buttons.

Activating Alt.Bass button allows to automatically alternate between Bass I and Bass II with each Strum bar Down.

Strum bar Up triggers UpStrums all the time.

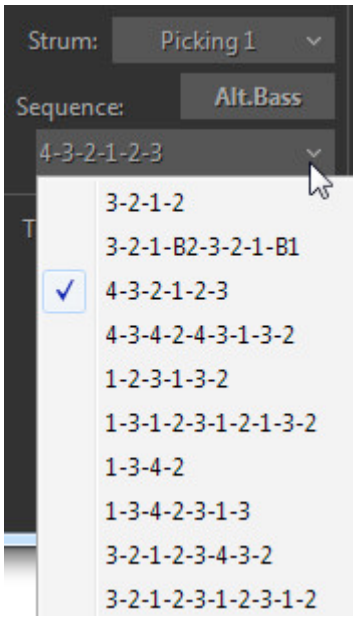
Picking

With Picking function Strum bar works differently, according to its name.

Strum bar Down triggers Bass I of the current chord all the time.

Activating Alt.Bass button allows to automatically alternate between Bass I and Bass II.

Strum bar Ups sequentially trigger individual strings (chord voices) in the order specified by selected String Sequence. Click on Sequence combo box to select String Sequence in the popup list:



Selecting String Sequence

String Sequence

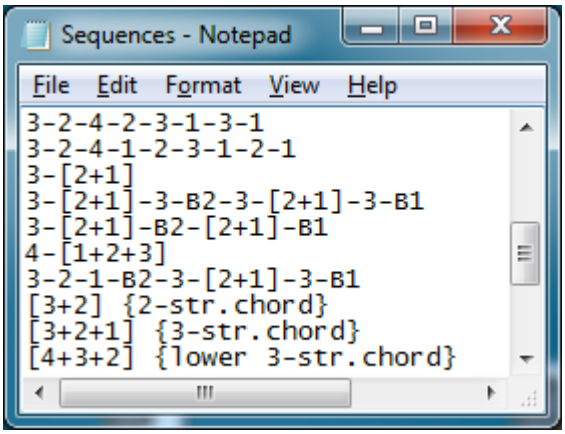
String Sequence is a special tab presenting the order of strings you can pick step-by-step with every Strum bar Up stroke. For instance:

3-1-2 sequence will trigger 3rd string-> 1st string-> 2nd string picking pattern.

Continuous Strum bar Ups will cycle String Sequence until you press Strum bar Down which will trigger Bass I note and reset String Sequence to the first step.

Creating String Sequence

String Sequence is a plain text data included in Sequences.txt file (found in the installation directory):



You can open/save this file in any text editor and easily edit/create your own picking patterns by simply typing the needed string numbers in a row separated by '-' symbol.

You may use Bass I and Bass II picks in a Sequence by entering B1, B2 symbols, as well as 2 or more simultaneous string picks within single step by entering string numbers in square brackets with '+' symbol between them:

3-[1+2] sequence will trigger 3rd string->1+2 strings picking pattern.

If you name the Sequence you'll see its name instead of row of numbers in the Sequences popup list. To do this, simply type the name in braces at the right, e.g.:

3-1-2-3-1 {Easy arpeggio} will show up in the menu list as 'Easy arpeggio'.

Strum bar Function settings

Note, that each of 5 Strum bar Function selections, Strum, Bass&Strum, Picking1, Picking2, Picking3 has independent settings, automatically saved within the engine on going to another function or mode, and are saved within the DAW project as well.

Strum bar Function remote selection

You can remotely select Strum bar Playing Technique directly from the guitar controller by holding different Frets and pressing START button:

1 + START -> Strum

2 + START -> Bass&Strum

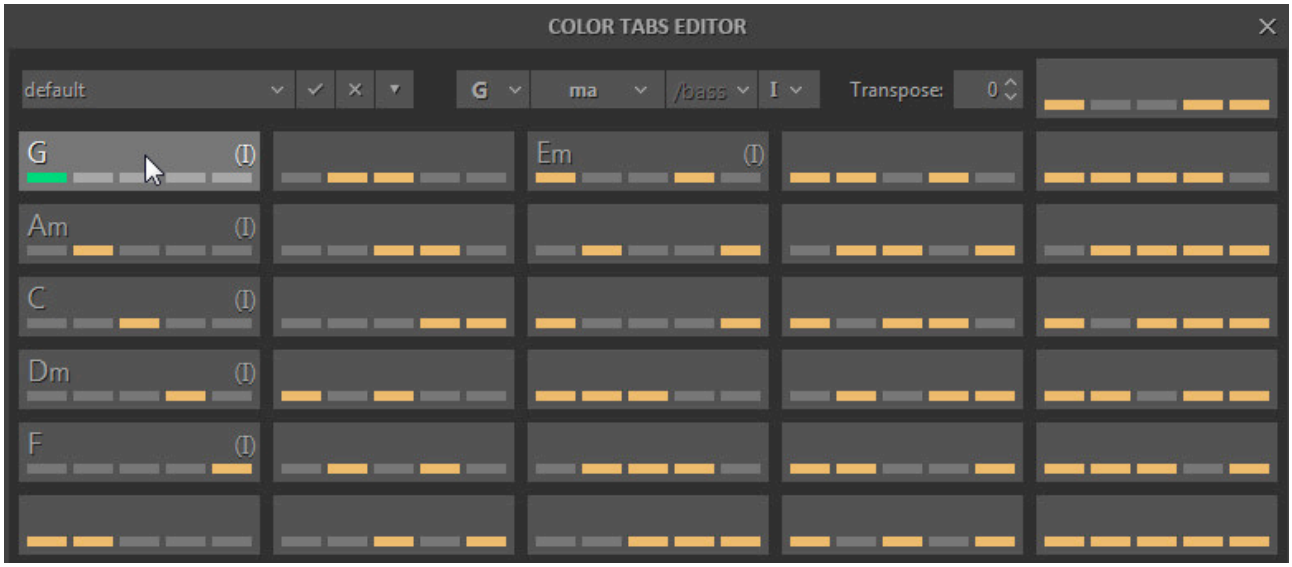
3 + START -> Picking 1

4 + START -> Picking 2

5 + START -> Picking 3

Chord Tab Editor. Creating Chord Tab

Press Edit button to open Chord Tab Editor window showing 31 cells with all possible Fret combinations:



Chord Tab Editor

Assigning chords to Fret schemes

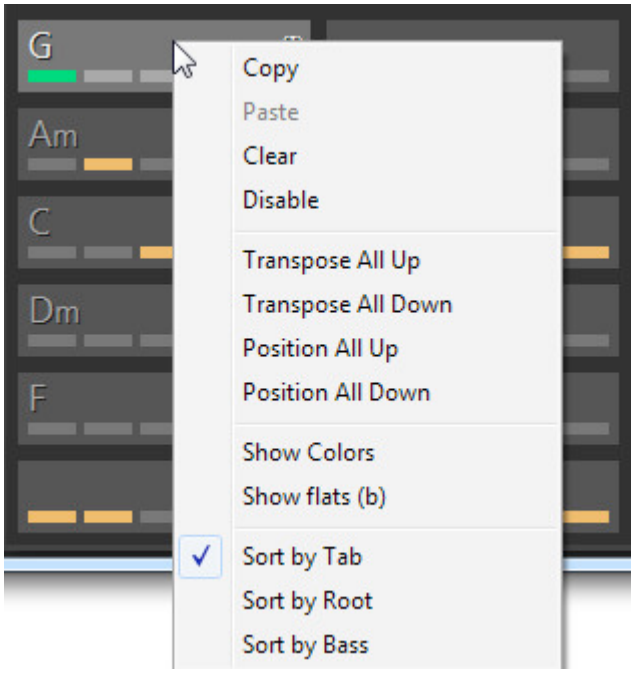
Click on the chord cell with the needed Fret scheme to select it.

Select Root note, chord type, /Bass note, Chord Position in the appropriate chord boxes, and full chord name will appear on the cell:

Assign as many chords as you need for the song (up to 31 available)

Editing Chord Tab

Tab Editor allows to copy/paste, clear, disable single chords, re-order, transpose and change position for all chords from the right-click context menu:



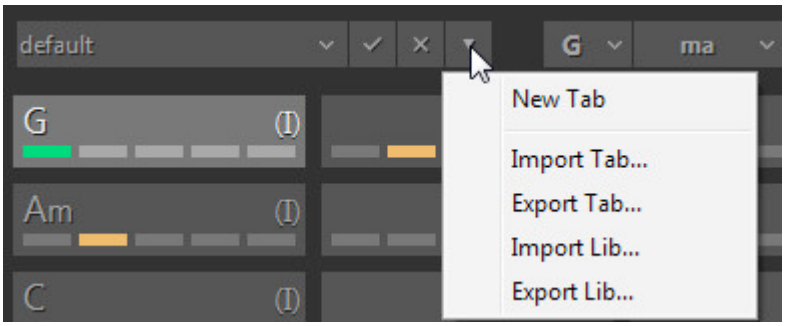
/Note, that disabled cells will be greyed out and displayed only in Tab Editor/

Saving Chord Tab

Click on Tabs combo box, type in the name and press Enter to save your Tab (or simply press Save icon). To delete Chord Tab press Delete button:

Save, Delete buttons

You can import/export single Chord Tab or the whole Tab Library using File button (the one with triangle icon):



Transposing Chord Tab (automated)

To transpose all chords of the TAB simply press/enter the appropriate MIDI note in Repeat zone (C through B):

C => 0

C# => +1

D => +2

D# => +3

etc.

Universal Chord Tab

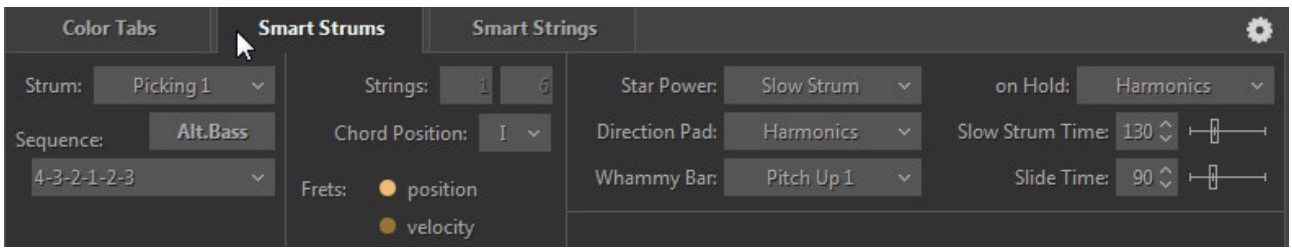
For Joystick (Struminator) mode fans we have developed a Universal Chord Tab letting you perform guitar accompaniments to countless simple songs in ANY key within the single Chord Tab, using just 5 Fret buttons of guitar controller for chord changes.

In addition to Strum bar guitar performance techniques implemented in RealGuitar 3 the Universal Chord Tab turns Guitar Hero game controller into a new harmonic musical instrument for performing song backgrounds, as well as a powerful song-writing tool for your future masterpieces.

For details refer to the Appendix section, MusicLab Universal Chord Tab.

SmartStrums mode (automatic chord changes)

Press SmartStrums tab to switch on the SmartStrums mode:



SmartStrums mode window

Chords

Insert chords in a MIDI track and chord changes will automatically sent to RealGuitar engine along with the song, so you simply play rhythm with Strum bar and articulate current chord with Fret buttons.

You may need to shift chord track or single chords ahead to anticipate chord changes when playing rhythm.

If you want to use /Bass chords in a song enter Bass note octave or more lower basic chord notes to let chord detect engine interpret such a chord as /Bass chord.

Frets Function. Articulating Chords

In addition to articulating (sustain/release) chords Fret buttons may control either Chord Position/String layers, or Velocity (dynamics) of articulated chords at your choice.

Position/String layers control:

Fret 1 = Position I, lower strings

Fret 2 = Position I, upper strings

Frets (1+2) = Position I, full chord

Frets (2+3) = Position II, full chord

Fret 3 = Position II, upper strings

Frets (3+4) = Position III, full chord

Fret 4 = Position III, upper strings

Frets (4+5) = Position IV, full chord

Fret 5 = Position IV, upper strings

Lower and upper strings strums can be triggered by Strum bar with Strum function only.

Velocity (dynamics) control:

Any single Fret articulates full chord in current chord position

Fret 5 adds velocity, while Frets 3, 2, and 1 proportionally reduce velocity of played chords

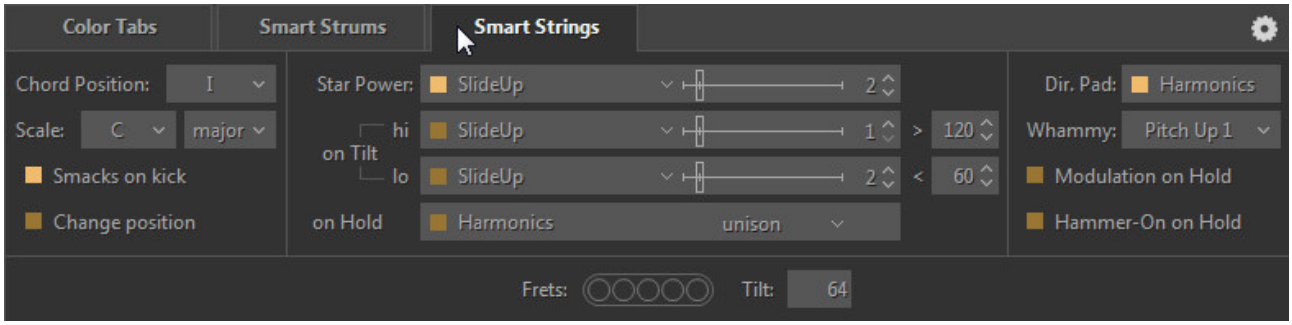
Strum Bar Function. Playing Rhythm

In SmartStrums mode Strum bar works exactly the same way as in ColorTabs mode.

Refer to ColorTabs mode, 'Strum bar Function. Playing Rhythm' Chapter.

SmartStrings mode (automatic chord changes)

Press SmartStrings tab to switch on the SmartStrings mode:



SmartStrings mode window

Chords

Insert chord changes in a MIDI track and they will be automatically sent to RealGuitar engine along with the song.

Basic Playing techniques

Press Frets to select strings you want to play (Frets from left through right correspond to Bass I-4th-3rd-2nd-1st strings).

Play selected string(s) by pressing Strum bar.

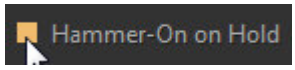
Holding any Fret allows to sustain next played strings, while releasing the initial Fret will cut off all sustaining notes.

Pressing Strum Bar with released Frets triggers muted sound of previously played note(s)

Producing Hammer-On/Pull-Off

SmartStrings mode not only allows you to play chord notes (voices) by triggering different strings with Strum bar, but diatonic (non-chordal) notes as well using Hammer-On/Pull-Off techniques.

Click Hammer-On on Hold LED to activate it:



To produce Hammer-On:

- Press and hold Fret to select a string
- Press Strum bar to trigger selected string(s)
- While holding down Strum bar and Fret, tap the right neighbor Fret to trigger Hammer-On
- While holding down Strum bar, release the newly tapped Fret to trigger Pull-Off to the initial chord note

To produce Pull-Off:

- Press and hold Fret to select a string
- Press Strum bar to trigger selected string(s)
- While holding down Strum bar and Fret, tap the left neighbor Fret button to trigger Pull-Off
- While holding down Strum bar release the newly tapped Fret to trigger Hammer-On to the initial chord note

Diatonic Scale for Hammer-Ons/Pull-Offs

Hammer-Ons and Pull-Offs trigger diatonic (non-chordal) notes which are the nearest to the initial chord note (upper for Hammer-On and lower for Pull-Off). To let the engine 'know' non-chordal notes you must previously assign the appropriate major or minor diatonic scale for the whole song or for the groups of chords if needed.

E.g. you have C-Dm-G7 chord sequence. Assigning C major scale for the chord group you'll get the following Hammer-Ons for each chord note:

C chord: C->D, E->F, G->A

Dm chord: D->E, F->G, A->C

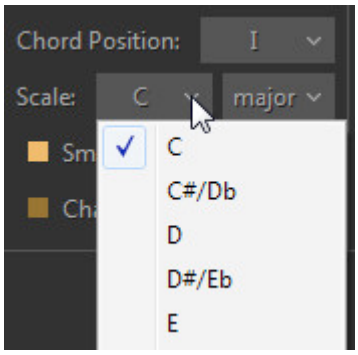
G7 chord: G->A, B->C, D->E, F->G

Pull-Offs will use the same diatonic notes but lower the initial chord notes

Assigning Diatonic Scale

There are two ways to assign diatonic scale, Manual and Automatic:

1. Manually select Root note and scale type for the entire song in the Scale combo boxes:



2. If you need various scales within the song you can use MIDI CC Automation to change root note and scale type in the needed measure(s) of the song

Automating Root note selection:

MIDI CC#91 values to Root note (C through B, by tens)

1-9 = C

10-19 = C#(Db)

20-29 = D

30-39 = D#(Eb)

etc..

Automating scale type selection:

MIDI CC#92 values to scale type (by tens)

1-9 = major

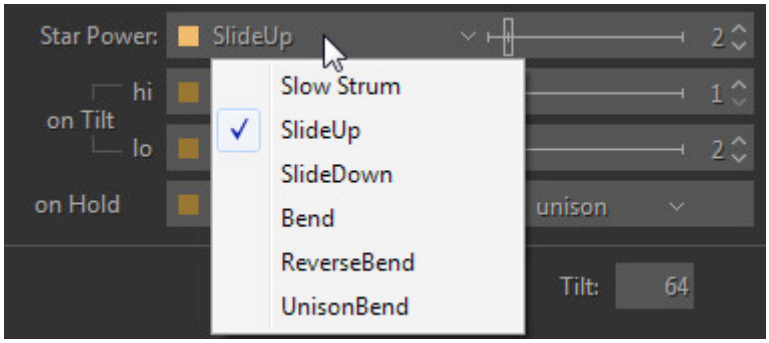
10-19 = minor

Additional Techniques/Effects/Sounds

While main buttons, Frets and Strum bar allow to easily articulate chords and chord notes, and produce basic playing techniques, you can use other buttons and controls implemented in Guitar Hero controller to improve the performance by adding a number of effects and sounds.

Star Power button FXs (SmartStrings mode)

Star Power (global):



- **Slide Up** - triggers automatic slide up TO the played note(s)
- **Slide Down** - triggers automatic slide down FROM the played note(s)
- **Bend** - triggers automatic bend up TO the played note(s)
- **Reverse Bend** - triggers automatic bend down TO the played note(s)
- **Unison Bend** - triggers automatic Unison Bend TO the played note(s)
- **Slow Strum** - triggers Slow Strum of the current chord

Star Power on Tilt:

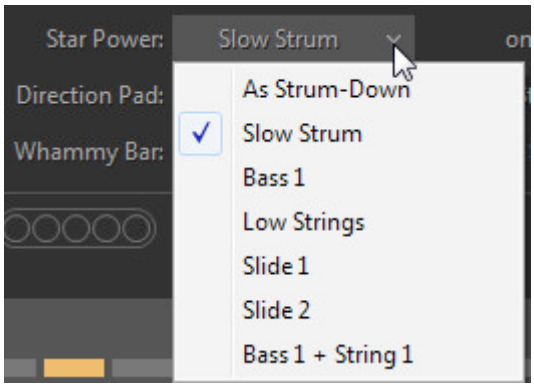
- **hi** - triggers the selected FX with the fretboard position higher the value set in Tilt numeric box
- **lo** - triggers the selected FX with the fretboard position lower the value set in Tilt numeric box

Star Power on Hold:

When activated lets you tap Harmonics with Frets while holding Star Power (BACK) button pressed.

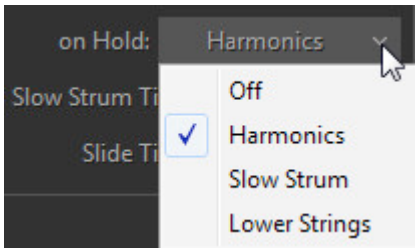
Star Power button FXs (ColorTabs, SmartStrums modes)

Star Power:



- **As Strum bar** - duplicates Strum Bar, letting you produce Accent stroke
- **Slow Strum** - triggers Slow Strum
- **Bass I** - triggers Bass I of current chord
- **Lower Strings** - triggers lower string strum of current chord
- **Slide 1** - triggers automatic 1-step slide up to current chord
- **Slide 2** - triggers automatic 2-step slide up to current chord
- **Bass I + String 1** - triggers Bass I and string 1 simultaneously

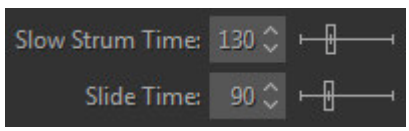
Star Power on Hold:



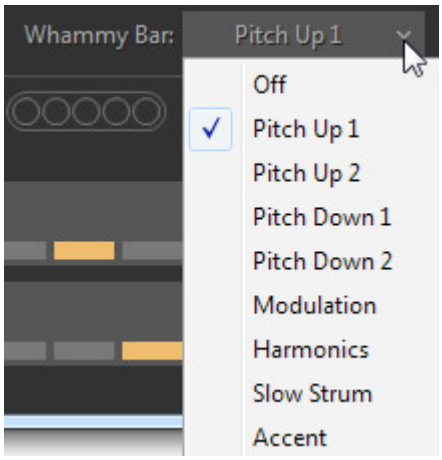
- **Off** - disabled
- **Harmonics** - holding Star Power (BACK) lets you tap Harmonics with Frets
- **Slow Strum** - holding Star Power (BACK) lets you play Slow Strum Down/Up with Strum bar
- **Lower Strings** - holding Star Power (BACK) lets you play Lower String Strum Down/Up with Strum bar

Timing Controls:

You can adjust Slow Strum time and Slide time for Strokes assigned on Star Power (BACK) button with the appropriate control:

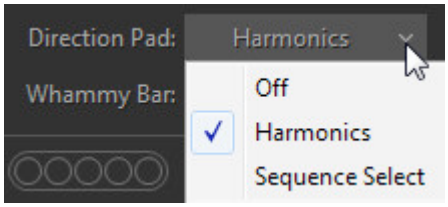


Whammy bar FXs



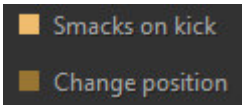
- **Off** - disabled
- **Pitch Up 1** - Pitch bend up to semitone
- **Pitch Up 2** - Pitch bend up to 2 semitones
- **Pitch Down 1** - Pitch bend down to semitone
- **Pitch Down 2** - Pitch bend down to 2 semitones
- **Modulation** - switches on Modulation CC
- **Harmonics** - switches on Harmonics FX playable by Fret taps
- **Slow Strum** - switches on Slow Strum FX playable by Strum bar
- **Accent** - switches on the Accent stroke playable by Strum bar (set Accent velocity value in Settings panel)

Directional pad FXs



- **Harmonics** (all modes) - pressing Directional pad to the left or right switches on Harmonics FX playable by Fret taps
- **Sequence Select** (ColorTabs, SmartStrums modes) - pressing Directional pad to the right or left navigates through String Sequences list (available only for Strum bar Picking function)

Star Power bonus FXs

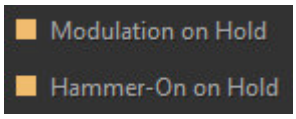


- **Smacks on kick** (all modes) - allows to trigger Smacks FX with Star Power (BACK) button when no Frets are pressed

- **Change Position** (SmartStrings mode) - lets you play Stroke with Star Power (BACK) button and simultaneously change chord position up or down depending on what Fret is being pressed:
    - Position Up with 5th Fret (Orange) pressed
    - Position Down with 1st Fret (Green) pressed

On the chord change Position returns to initial value.

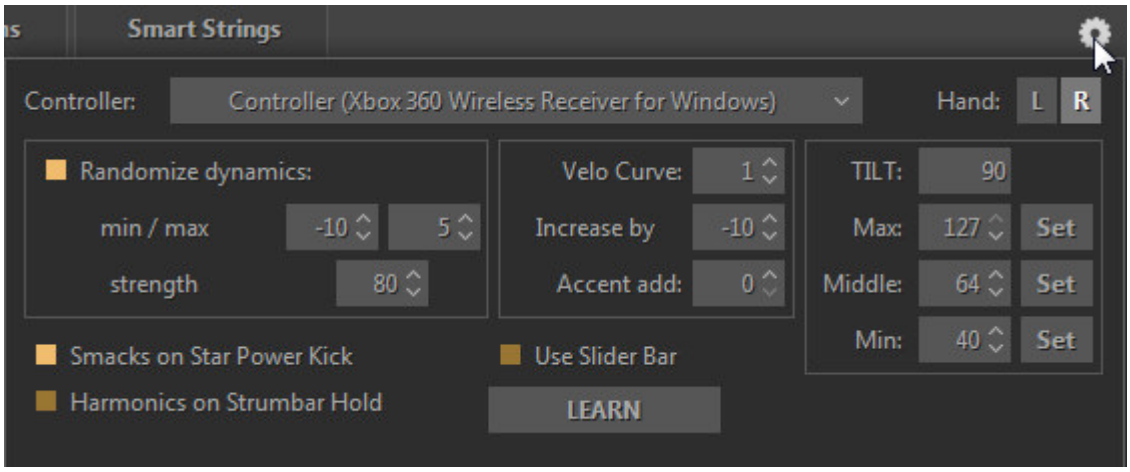
'On Hold' bonus FXs (SmartStrings mode)



- **Modulation on Hold** - lifting/lowering the guitar fretboard while holding down the Strum bar switches on/off Modulation CC for the sustaining note(s).
- **Hammer-On on Hold** - allows to tap Hammer-Ons/Pull-Offs with Fret buttons while holding down the Strum bar.

Joystick Global Mode Settings panel

Being in any of Joystick modes click Settings button to open Joystick mode Global Settings panel:



Joystick Settings panel

Controller:

- Click combo box to select active game controller as an input

Hand:

Press L or R button to switch between Left or Right Handed guitar position:

- **R** - playing Strum bar with the right hand
- **L** - playing Strum bar with the left hand (Strum bar Down/Up strokes reversed)

Randomization section:

- **Randomize dynamics** - click to switch velocity randomization on/off

- **min/max** - set randomization range, minimum and maximum deviation values
- **strength** (%) - sensitivity of randomization

Velocity section:

- **Velo Curve** - select the output velocity curve
- **Increase by** - add/reduce output velocity
- **Accent add** - set velocity value that will be added to the Stroke/FX produced by Star Power (BACK) button, or switched on with Whammy bar Accent function

Tilt section:

Tilt sensors implemented in Guitar Hero controller are used in Joystick mode as dynamics control option, adding velocity on lifting the fretboard while reducing velocity on lowering it.

Play chords with the Strum bar and calibrate your Tilt control by moving the fretboard up and down and setting guitar position values in the Max, Middle, Min boxes you consider the best for highest, normal, and lowest dynamics thresholds.

Other Controls:

- **Smacks on Star Power kick** - allows to trigger Smacks by pressing Star Power (BACK) button when all Frets are released
- **Harmonics on Strumbar Hold** - allows to trigger Harmonics (if assigned) by tapping Fret buttons while holding down the Strum bar
- **Use Slider bar** - switches on the Slider bar sensors functioning

Guitar Strokes and Effects available in Joystick mode

- **Strum Down/Up** - Strum bar down/up
- **Muted Strum Down/Up** - Strum bar down/up with no Frets pressed
- **Slow Strum Down/Up** - Star Power, Strum bar (Star Power on Hold, Whammy bar switch)
- **Lower Strings Strum Down/Up** - Star Power, Strum bar (Star Power on Hold switch); Fret 1 + Strum bar (SmartStrums mode)
- **Upper Strings Strum Down/Up** - Frets 2, 3, 4, or 5 + Strum bar (SmartStrums mode)
- **Individual String picks** - Strum bar Picking function; Frets + Strum bar (SmartStrings mode)
- **Bass I** - Strum bar Picking/Bass&Strum functions, Star Power (assignable); Fret 1 + Strum bar (SmartStrings mode)
- **Hammer-On/Pull-Off** - tap neighbor Fret legato while holding down the Strum Bar (SmartStrings mode)
- **Automatic Slide Up** (chord, string) - Star Power, assignable FX

- **Automatic Bend Up** , **Unison Bend** - Star Power, assignable FX (SmartStrings mode)
- **Manual Bend 1, 2 steps** (chord, string) - Whammy bar, assignable
- **Modulation CC** (chord, string) - Whammy bar switch, assignable FX; Tilt Modulation on Hold switch, assignable FX (SmartStrings mode)
- **Harmonics FX** - tap Frets while holding Star Power/Directional pad/Whammy bar/Strum bar, assignable FX
- **Smacks FX** - Star Power (BACK) with no Frets pressed, assignable FX

Joystick Button Map

Note #	Note name	Button name
127	G 8	1 Fret (Green)
126	F#8	2 Fret (Red)
125	F 8	3 Fret (Yellow)
124	E 8	4 Fret (Blue)
123	D#8	5 Fret (Orange)
122	D 8	Strum Bar Up
121	C#8	Strum Bar Down
120	C 8	Star Power (BACK) button
119	B 7	START button
118	A#7	Directional Pad (left)
117	A7	Directional Pad (right)
116	G#7	1 Slider Bar
115	G 7	2 Slider Bar
114	F#7	3 Slider Bar
113	F 7	4 Slider Bar
112	E 7	5 Slider Bar

All buttons activity (pressing/holding/releasing) is recorded/read as normal MIDI notes in the upper octave according to the Joystick Button Map.

Moving Whammy bar is recorded/read as Pitch Wheel MIDI data.

Tilt data (fretboard position change) is automatically applied to velocity value of MIDI notes producing Strokes and FXs (Strum bar, StarPower button, Fret taps, Slider bar).

In SmartStrings mode when Star Power 'on Tilt' FXs, and/or Modulation 'on Hold' FX are activated Tilt data used for switching the FX on/off is additionally recorded/read as MIDI CC#93 data.

Buttons-to-MIDI mapping gives you the opportunity to easily edit the recorded part in Piano Roll view of your DAW.

Sonar users can import RealGuitar 3 instrument definition file (RealGuitar3.ins) included in the installation folder to see button names in Piano Roll view.

For MIDI examples refer to Joystick Demo Songs Tutorial pack.

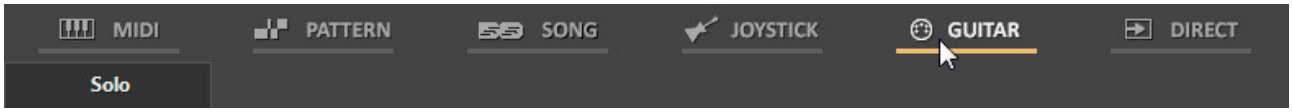
Joystick Mode Tutorial

For your better understanding how to use Guitar Hero controller in Joystick mode, we prepared 9 demo song packs http://www.musiclab.com/assets/files/Joystick_Mode_tutorial.zip including MIDI file (**.mid*) of the performance, audio background file (**.wav*), RealGuitar/LPC settings file (**.rgsong*), as well as a reference video (**.mp4*) for each song.

In this tutorial all three Joystick playing modes: ColorTabs, SmartStrums, and SmartStrings are presented in detail.

MIDI Guitar Global Mode

If you prefer to use normal guitar via MIDI interface instead of MIDI keyboard you can switch to MIDI Guitar Global mode by pressing MIDI Guitar button.



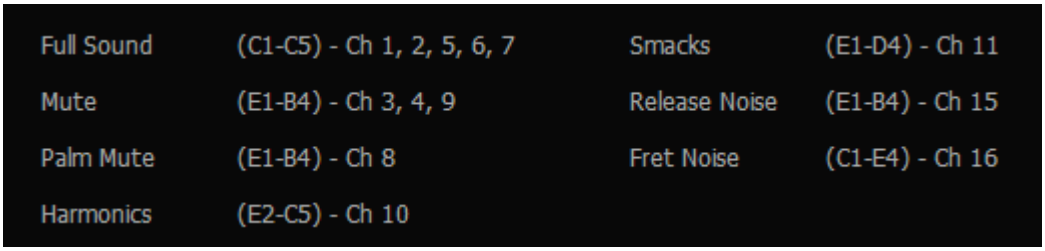
MIDI Guitar mode has multi-channel MIDI input: 1-6 MIDI channels for 1-6 guitar strings accordingly, with each string/channel having independent pitch bend control, though Modulation, Aftertouch MIDI controllers, and all other FXs are common for all strings.

MIDI Guitar mode allows you to step record the guitar part with a pencil tool in your DAW on individual track/MIDI channel for each string. Note, that notes in a track going out of the appropriate string range will be played on the nearest string.

MIDI Guitar Global mode works as Solo performance mode only.

Direct Global mode

Press Direct button to switch RealGuitar to Direct Global mode.

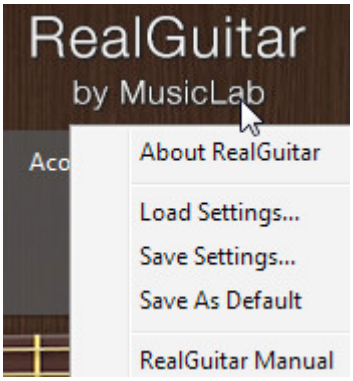


Direct mode window

This mode turns RealGuitar into plain guitar sampler, allowing you to trigger all internal sounds and noises directly with all intellectual features turned off, having previously selected the appropriate MIDI channel for the track.

Importing/Exporting Global Settings

You can save all modifications you've made to Global Preset (external *.rgsong file) containing overall settings, which allows to easily export all changed data as a single file and import it when needed. Click on MusicLab logo to save/load the Global Settings:



Note, all current settings are saved within a project doc of your DAW as well.

If you want the current settings load every time you run RealGuitar, select 'Save As Default' item in the popup menu. To return factory default settings press Reset button in SetUp panel and select 'Save As Default'.

Appendix. MusicLab Universal Chord Tab

For Joystick (Struminator) mode fans we have developed a Universal Chord Tab letting you perform guitar accompaniments to countless simple songs in ANY key within the single Chord Tab, using just 5 Fret buttons of guitar controller for chord changes.

In addition to Strum bar guitar performance techniques implemented in RealGuitar/Strat/LPC 3 the Universal Chord Tab turns Guitar Hero game controller into a new harmonic musical instrument for performing song backgrounds, as well as a powerful song-writing tool for your future masterpieces.

Concept

Chord Function

If you think of chords as a musical family of chords derived from the notes of a key (scale degrees) tied to one another by harmonic function, as opposed to individual sets of notes indicated by Root note and chord type in the name, we recommend that you use Roman numerals instead of their letter names.

For example, in the key of C, the chord function for an F chord is IV, similarly, the chord function for a G chord is V, for Dm is ii, for Em is iii, etc. Uppercase Roman numbers are used to indicate major chords and lowercase numbers to indicate minor chords.

C major scale diatonic chords

```
C     Dm    Em    F     G     Am    Bm7b5
|     |     |     |     |     |     |
I     ii    ii    IV    V     vi    vii
```

Numeric system allows to name much more than seven diatonic chords. You can built major chords on minor chord degrees (and vice versa) by changing uppercase/lowercase numerals, indicate various chord types by typing appropriate symbols after the numeral, and even use chromatic degrees as a Root by typing # /b symbol before the numeral:

```
CM7   Cm    D     E7    Fm    F#m7b5   Gm7    A     Bb
|     |     |     |     |     |        |      |     |
IM7   i     II   III7   iv   #iv7b5    v7     VI    bVII, etc.
```

Thinking of chords as chord functions lets you easier read chord progressions, memorize them, transpose to different keys, as well as better understand harmonic structure of the songs (which often appears to be surprisingly common for many quite dissimilar ones!).

Universal Chord Tab

MusicLab Universal Chord Tab covers C major key diatonic chords, as well as a number of other relative and modulation chords that can fit the harmonic structure of majority of popular songs. You can use Universal Chord Tab as is, or consider it as basis for editing/creating your own Universal Tab.

Basic Universal Chord Tab

Let's start with the **Basic Universal Tab** including just 12 chords.

Connect your guitar controller to computer, run RealGuitar 3, turn on Joystick/ColorTabs mode, and load 'Universal Basic' tab by clicking on Tab combo box:

Basic Universal Chord Tab

On the picture below 12 chords of the Basic Universal Tab are shown under Roman numerals (Functions). Uppercase numerals pertain to major chords, while lowercase Roman numerals to minor chords with Root notes found on diatonic degrees of C major scale.

Chord fingerings are displayed with 'o' symbols for 1 through 5 Fret buttons that should be pressed to switch a chord.

Middle Fret (#3) corresponds to C chord, which is I chord (Tonic) of C major key.

```
  |     -I-      |  -ii-  |  -II-  | -iii- | -III7- | -IV- | -iv- |
    (C)    (C7)     (Dm)      (D)       (Em)     (E7)     (F)     (Fm)
1|  -      o    |   -    |        |   o   |   -    |   -   |   -   |
2|  -      o    |   -    |   o    |   -   |   o    |   -   |   o   |
3|  o      o    |   -    |   -    |   -   |   o    |   -   |   -   |
4|  -      -    |   o    |   o    |   o   |   o    |   -   |   -   |
5|  -      -    |   -    |   -    |   -   |   o    |   o   |   o   |

  |  -V-  |  -vi- | -VI7-  | -vii- ||
     (G)      (Am)     (A7)    (Bm7b5)
1|   o   |   -   |   o    |   -   ||
2|   -   |   o   |   o    |   o   ||
3|   -   |   -   |   o    |   o   ||
4|   -   |   -   |   o    |   -   ||
5|   -   |   -   |   -    |   o   ||
```

Numbers 1 through 5 correspond to left through right Fret buttons:
1 -> Green, 2 -> Red, 3 -> Yellow, 4 -> Blue, 5 -> Orange

Practicing Chord Progressions

In order to use Universal Chord Tab successfully for playing song accompaniments with Guitar Hero controller, you have to memorize chord fingerings (beginning from Universal Basic Tab) and learn to play rhythm pattern with the Strum bar.

For playing techniques details refer to Joystick Global mode/ColorTabs mode/Playing Techniques section of the Manual, and video examples included in Joystick Demo Songs pack/ColorTabs folder. Please download it from
http://www.musiclab.com/assets/files/Joystick_Mode_tutorial.zip

For startup we have included a number of common chord progressions.

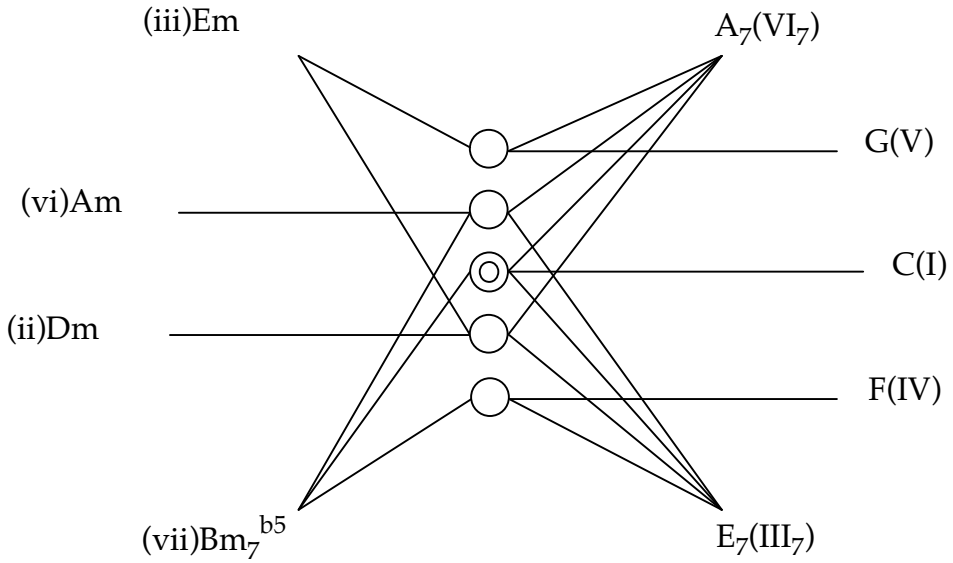
Playing the progressions will help you in sight-reading Joystick Tabs, memorizing chord fingerings, and quickly finding the appropriate Fret button(s) when moving from one chord to another.

Read chord changes thinking of their harmonic functions (Roman numerals), but not of their letter names. For example, middle Fret chord (C) is I chord (Tonic), Fret 1 (G) is V chord (Dominant), Fret 5 (F) is IV chord (Subdominant), while Fret 2 (Am) is relative minor chord (vi chord), Fret 4 (Dm) is ii chord (Predominant), and so on...

Note also, that unlike literal chord names the relative harmonic functions (and thereafter Roman numerals) apply for any key, so you can transpose the whole Tab to any interval, using Transpose option, and easily play transposed chord sequences thinking of Fret buttons as I-IV-I, ii-V-I,

I-V-vi-IV functions, etc.

Here on the pictorial diagram you can see the Fret - Chord - Function relationship for 9 chords used in the following chord progressions:



Chord Progressions

Fingering Tips:

- Learn to finger a chord a tiny bit ahead of strumming
- Try using the same finger(s) for common Fret(s) in two sequential chords

Major key (C major)

```
 (C)   (F)    (G)  (C)   (C)  (Am)   (F)   (G)   (C)   (G)   (Am)   (F)
 |I -  IV -  V  - I    |I - vi  - IV -  V    |I -  V  - vi  - IV   |

1|-     -     O     -    |-    -      -     O    |-     O     -      -   |
2|-     -     -     -    |-    O      -     -    |-     -     O      -   |
3|O     -     -     O    |O    -      -     -    |O     -     -      -   |
4|-     -     -     -    |-    -      -     -    |-     -     -      -   |
5|-     O     -     -    |-    -      O     -    |-     -     -      O   |


 (C)   (Em)   (F)   (G)   (C)   (Em)   (Am)  (F)   (C)   (Dm)  (Em)   (F)
 |I -  iii -  IV -  V    |I  - iii - vi - IV   |I   - ii - iii - IV   |

1|-     O     -     O    |-     O      -     -   |-     -     O      -   |
2|-     -     -     -    |-     -      O     -   |-     -     -      -   |
3|O     -     -     -    |O     -      -     -   |O     -     -      -   |
4|-     O     -     -    |-     O      -     -   |-     O     O      -   |
5|-     -     O     -    |-     -      -     O   |-     -     -      O   |


 (Em)    (F)   (G)   (C)  (Dm)  (Em)   (Am)  (G)   (F)    (G)   (C)  (E7)
 |iii - IV  - V -  I    |ii - iii - vi  - V   |IV -  V -  I - III7  |

1|O      -     O     -    |-     O      -     O    |-     O     -     -    |
2|-      -     -     -    |-     -      O     -    |-     -     -     O    |
3|-      -     -     O    |      -      -     -    |-     -     O     O    |
4|O      -     -     -    |O     O      -     -    |-     -     -     O    |
5|-      O     -     -    |-     -      -     -    |O     -     -     O    |


 (C)   (E7)    (Am)   (C7)  (F)  (Fm)   (C)   (G)    (F)  (G)    (Am)  (D)
 |I - III7 - vi -  I7 - IV - iv  - I -  V   |IV - V   - vi - II   |

1|-     -      -     O     -     -     -     O    |-     O     -     -    |
2|-     O      O     O     -     O     -     -    |-     -     O     O    |
3|O     O      -     O     -     -     O     -    |-     -     -     -    |
4|-     O      -     -     -     -     -     -    |-     -     -     O    |
5|-     O      -     -     O     O     -     -    |O     -     -     -    |
```

Minor key (A minor)

Note, that A minor key is a relative key to C major having identical diatonic chords, so in order to prevent confusion we keep using C major scale numerals for A minor key chords.

```
  (Am)   (F)   (C)   (G)    (Am)  (C)   (D)   (F)    (Am)  (F)   (C)    (E7)
  |vi - IV  - I -  V    |vi - I  - II  - IV   |vi - IV - I  - III7 |

1|-     -     -     O    |-     -     -     -    |-     -     -     -    |
2|O     -     -     -    |O     -     O     -    |O     -     -     O    |
3|-     -     O     -    |-     O     -     -    |-     -     O     O    |
4|-     -     -     -    |-     -     O     -    |-     -     -     O    |
5|-     O     -     -    |-     -     -     O    |-     O     -     O    |


  (Am) (G)    (F)   (E7)  (Am)  (Dm)  (G)   (C)    (Bm7b5)(E7)   (Am)  (F)
  |vi - V  - IV - III7 |vi -  ii - V  - I    |vii - III7 - vi- IV |

1|-     O     -     -     |-     -     O     -    |-      -      -     -   |
2|O     -     -     O     |O     -     -     -    |O      O      O     -   |
3|-     -     -     O     |-     -     -     O    |O      O      -     -   |
4|-     -     -     O     |-     O     -     -    |-      O      -     -   |
5|-     -     O     O     |-     -     -     -    |O      O      -     O   |


  (F)    (E7)   (Am)   D    (Am)  (Em)   (F)   (G)   (Am)   (D)   (Am)  (Em)
  |IV - III7 - vi - II  |vi - iii  - IV - V   |vi - II  - vi - iii

1|-      -     -     -    |-     O      -     O    |-     -      -     O    |
2|-      O     O     O    |O     -      -     -    |O     O      O     -    |
3|-      O     -     -    |-     -      -     -    |-     -      -     -    |
4|-      O     -     O    |-     O      -     -    |-     O      -     O    |
5|O      O     -     -    |-     -      O     -    |-     -      -     -    |
```

Full Universal Chord Tab

When you get familiar with Basic Universal Chord Tab, you may need more chords in the Tab.

Try the **Advanced Universal Tab** (24 chords, including 7, m7, maj7, 7sus4 chords):

Advanced Universal Chord Tab

Expert users can try our **Full Universal Tab** (31 chords), which is a real challenge, but gives you much more harmonic freedom:

Full Universal Chord Tab

On the picture below all 31 chords of Full Universal Tab are grouped under Roman numerals (Functions) with Root notes found on diatonic and some chromatic degrees of C major scale.

Note, that m7b5 (half-diminished) chords in the minor groups fit the harmonic function of the group even not having the same Root note.

```
  |             -I-                |     -ii-     |  -II-   |
  (C)   (CM7)  (C6)   (C7) (Csus)  (Dm)   (Dm7)    (D)  (D7)
1|-     -      O     O     -      |-      -      |-    -    |
2|-     O      -     O     -      |-      -      |O    O    |
3|O     O      O     O     O      |-      O      |-    O    |
4|-     -      -     -     -      |O      O      |O    O    |
5|-     -      -     -     O      |-      -      |-    -    |

  |  -iii-  |   -III-    |      -IV-       |   -iv-     | -#iv- |
  (Em) (Em7) (E7sus) (E7)  (F)   (FM7)  (F7)  (Fm)  (Dm7b5) (F#m7b5)
1|O    O     |O       -    |-     -      -    |-     O      |O       |
2|-    -     |-       O    |-     -      -    |O     O      |O       |
3|-    O     |-       O    |-     -      O    |-     -      |-       |
4|O    O     |O       O    |-     O      O    |-     -      |O       |
5|-    -     |O       O    |O     O      O    |O     O      |O       |

  |      -V-       |     -v-     |  -vi-    |-VI-|    -bVII-   |    -vii-    |
  (G)  (G7) (G7sus) (Gm7) (Em7b5)  (Am) (Am7)  (A7)  (BbM7) (Bb9) (Bm7b5) (Bm7)
1|O    O     O     |O     O      |-     O    |O   |O      O     |-      -     |
2|-    -    -      |O     O      |O     O    |O   |-      O     |O      O     |
3|-    -     O     |O     -      |-     -    |O   |O      O     |O      -     |
4|-    -     -     |-     O      |-     -    |O   |O      O     |-      O     |
5|-    O     O     |O     -      |-     -    |-   |O      O     |O      O     |
```

Basic diatonic chords are marked with red.
Fingering Tip: Press Frets 1+2 with index finger for Dm7b5 (iv), F#m7b5 (#iv), Gm7 (v), Bb9 (bVII) chords

Editing Universal Chord Tab

There are two ways to edit Universal Chord Tab in Tab Editor.

1. You can disable some multi-fret Chord cells of the Universal Tab to move between chords more easily when you are just beginning the learning curve.

To do that open Tab Editor, right-click a Chord cell and select 'Disable' item in popup menu. 'Disabled' cells will not show up in the Tab view if you close the Editor.

Basic and Advanced Universal Tabs are made similarly by simply disabling a number of more complex relative chords of Full Universal Tab.

2. You can assign other chords and/or chord types fitting your harmonic needs on Chord cells, and save the edited Chord Tab under custom name.

Advanced users can try creating their own Universal Tab from scratch.

Contacting MusicLab

Web site: http://www.musiclab.com

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